

American Artisan

and Hardware Record

Sheet Metal Work-Warm Air Heating

Vol. 94, No. 9

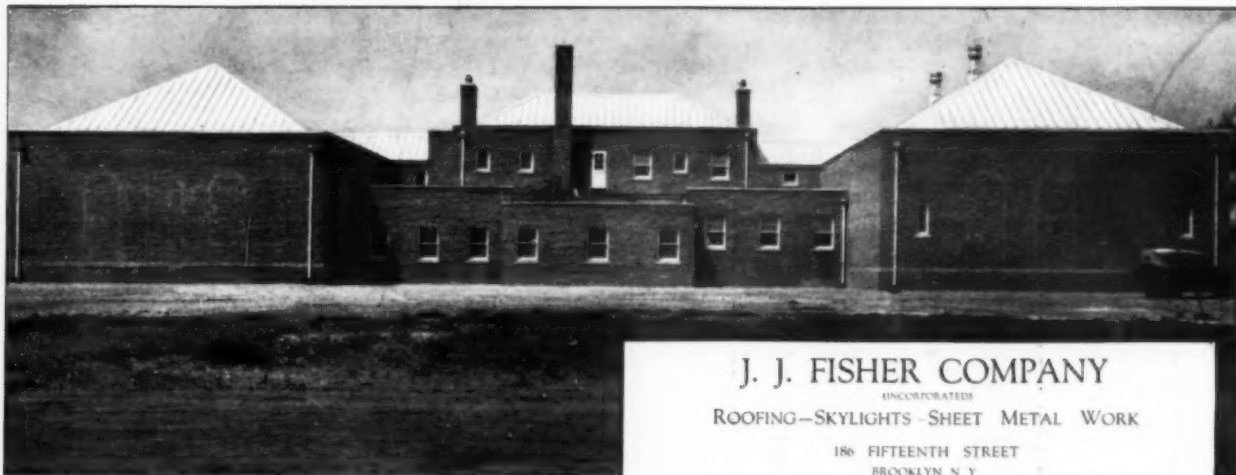
CHICAGO, AUGUST 27, 1927

\$2.00 Per Year

HORSE HEAD ZINC

— on Governor's Island

New Jersey
Zinc



Y. M. C. A. Building at Fort Jay, Governor's Island, N. Y. Harbor, on which 105 squares of Standing Seam Horse Head Zinc Roofing were installed by the J. J. Fisher Company, Inc., Brooklyn, N. Y.

Resistance to salt sea air
Immunity from rust and corrosion . . .
Absolute freedom from maintenance . .

These were the determining factors in the selection of the Standing Seam Horse Head Zinc roof for the new Y. M. C. A. Building on Governor's Island.

The growing use of Horse Head Zinc for roofing, conductor pipes and gutters is recognition of the economy of permanent construction.

Horse Head Zinc is the lowest cost permanent metal you can use. It cannot rust. It does not stain. Horse Head Zinc installations need never be repaired or replaced.

Are you familiar with this life-long metal? The coupon will bring you a sample.

The New Jersey Zinc Company
Established 1848

Products Distributed by

The New Jersey Zinc Sales Company

160 Front Street, New York City

Chicago Pittsburgh Cleveland San Francisco

J. J. FISHER COMPANY

UNINCORPORATED

ROOFING—SKYLIGHTS—SHEET METAL WORK

186 FIFTEENTH STREET
BROOKLYN, N. Y.

April 12, 1927.

The New Jersey Zinc Sales Co.
160 Front Street
New York City

Gentlemen:

We have just completed 105 squares of Standing Seam Roofing on the Fort Jay Y. M. C. A. Building at Governor's Island, New York, using your Horse Head Zinc Roofing.

It has made a very fine job and although the majority of the work was done during the worst part of the winter we encountered no difficulty in laying your material.

We would recommend New Jersey Standing Seam Horse Head Zinc Roofing for a serviceable, neat appearing job that can be installed at a price that is within the reach of everyone.

Yours very truly,
J. J. FISHER CO., INC.,

J. J. Fisher
Treas.

JLF/HL

THE NEW JERSEY ZINC COMPANY

160 Front Street - New York City

Please send me a sample of Horse Head Zinc so that I can test its easy working qualities.

NAME _____

ADDRESS _____

9 AA

CALORIC

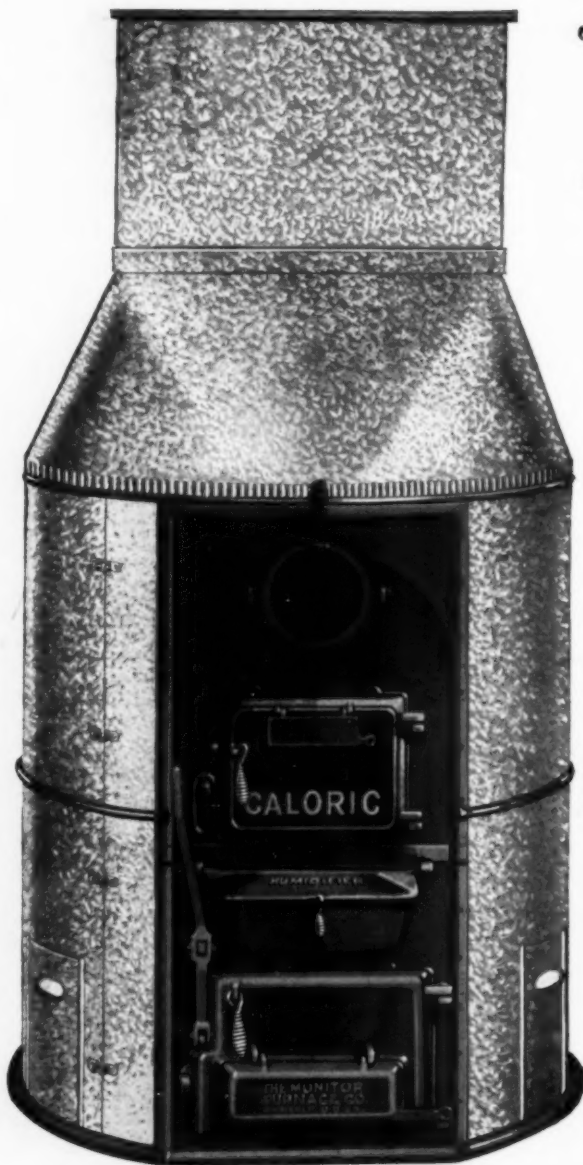
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NO time, money nor effort has been spared to make Caloric Systems of Circulating Heat the finest heating systems in the warm-air furnace field. Quality throughout, exclusive improvements, nationally known, competitive prices, sold *only* through dealers, are reasons why Caloric Dealers are enjoying constantly increasing sales—and profits.

Details of our attractive proposition and prices will be mailed on request. Write or wire NOW!

The MONITOR FURNACE CO.

108 Years of Heating Service
CINCINNATI, OHIO



CALORIC PIPELESS FURNACE

MONITOR OILECTRIC BURNERS

enable you to take care of every domestic oil burner installation. Made in two models:

Model "A" Nozzle Type. ELECTRICALLY IGNITED, OPERATED, CONTROLLED.

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Write for complete information.



CALORIC PIPE FURNACE



This is the Sales Demonstration

IT shows right before their very eyes the *second fire* created by the Carburetor in the SUPERIOR SUPER-SMOKELESS Warm Air Furnace. It can't be denied—Seeing is Believing!

And the smoke stack! In an inconceivably short time after you open the Carburetor door, the thick, black smoke of even a freshly stoked soft coal fire has vanished.

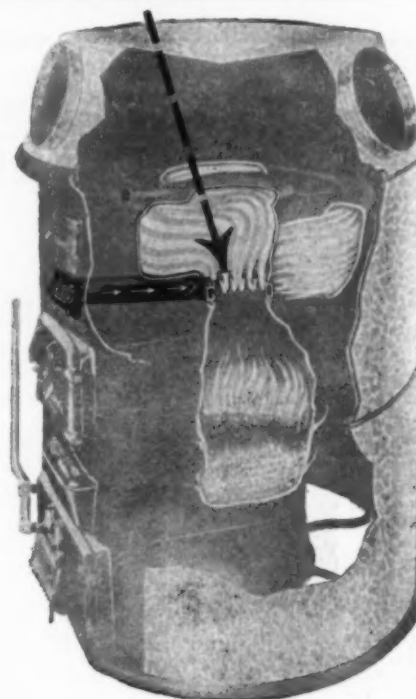
This visible, actual demonstration which you can stage so easily, is just one reason why the SUPERIOR SUPER-SMOKELESS sells in such numbers—in soft coal territory, in hard coal territory.

UTICA HEATER COMPANY
Utica, N. Y.

365 E. Illinois St., Chicago, Ill.

Makers of Superior Pipe and New Idea
Pipeless Furnaces

SUPERIOR SUPER-SMOKELESS WARM AIR FURNACE



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SUPERIOR DEALERS ARE EXCEPTIONALLY LOYAL---WHY ?

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Also Manufacturers of
Monarch Furnaces

Is a Product that gives satisfaction. Huge in value—Small in cost. Sturdy in Construction—Economical in use.

Built in a Plant where every known method is employed to make it uniform and of such materials that it actually gives a lifetime of service.

Sold under a policy that makes the Dealer eager to push it because there is profit in each sale with features that make it an easy furnace to market.

Manufactured by a company that has 35 years' reputation for fair dealing and progressive methods. Consider these fourfold advantages.

The Niagara Franchise grows in value year by year. Plan now to secure it by writing us today.

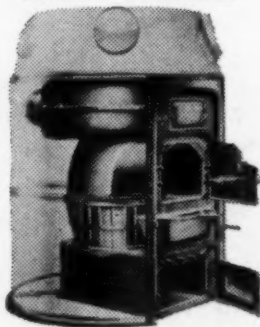
THE FOREST CITY FOUNDRY & MFG. CO.
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Meeting the Needs of the Western Furnace Dealer

YEAR after year "Standard Line" dealers multiply in number and increase their percentage of the available business. This is mostly due to the completeness of "Standard Service."

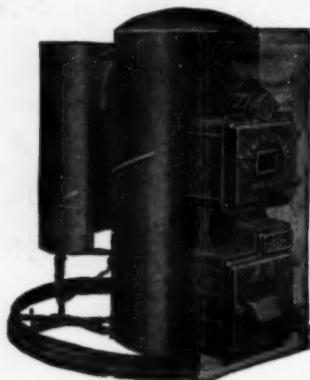
For Instance: From what other source can the Western Dealer obtain such complete selection of modern Warm Air Heaters as the Nesbit; Weir and Stanco Furnaces, 9 styles, and 47 sizes, in all.

Nesbit Moist Heat Furnace



Where else can you send an order for all of the following national brands and be assured of having your order filled complete?

HANDY PIPE AND FITTINGS
"NO STREAK" REGISTERS
H & C—170-190 SERIES REGISTERS
STANCO REGISTERS
WISS SNIPS
PEXTO TOOLS
MAJESTIC CHUTES AND REGISTERS



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Also the staple lines such as steel and semi steel Registers; Wood Grille; Whitney Tools; Asbestos Paper and Paste, etc., etc.

In fact we have everything for the Furnace-man.



STANCO STEEL FURNACE

STANDARD FURNACE & SUPPLY CO.
OMAHA, NEBR.



The best furnaces are the easiest to sell —

UNLIKE most other things that are necessary for human comfort, the difference in price between the higher grade furnaces and the poorest grade is never very much.

This fact is a great sales argument in persuading your prospects to avail themselves of the best on the market and *be sure* of long satisfactory service.

Another point, especially when you are advising the purchase of an ATH-A-NOR furnace, is the big difference in the amount of fuel required.

Your prospect is vitally interested in the upkeep of his heating plant and with the ATH-A-NOR furnace he actually can save considerable fuel.

The Famous Three-Way Air-Blast

THIS air blast is a main part of ATH-A-NOR construction—an exclusive feature and a proven smoke consumer.

This patented design allows an additional supply of oxygen at the exact point where it is needed and in an even and sufficient amount.

Your customers can burn soft coal economically with the ATH-A-NOR.



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FURNACE CO.**

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Another way is to interest him in what a heating system will do for him, based on its past *performance* for others.

Sell the first way and you cultivate customers who buy wherever they can get a furnace cheap.

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Sell the Front Rank way and you sell a customer permanently. No competitor can take away the business the last minute. And after the Front Rank is installed and in use, your customer becomes a booster for you and Front Rank.

For 39 years we have been manufacturing Front Rank Warm Air Heating Systems. We are in business to stay and grow. If you are, let us hear from you—we are always looking for more dealers who are. Investigate our time payment plan for dealers.

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TRADE NAME REGISTERED
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OVER 250,000 IN USE

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LR743

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Made of
TONCAN COPPER
MO-LYB-DEN-UM IRON
Fortified against
RUST AND CORROSION



Designed According to the correct Rating Formula---

THAT means that it is an up-to-date furnace—not only built sturdily of the highest quality material but designed to render the highest heating efficiency.

Notice that there is plenty of room for cold air return and easy flow of air over radiating surfaces.

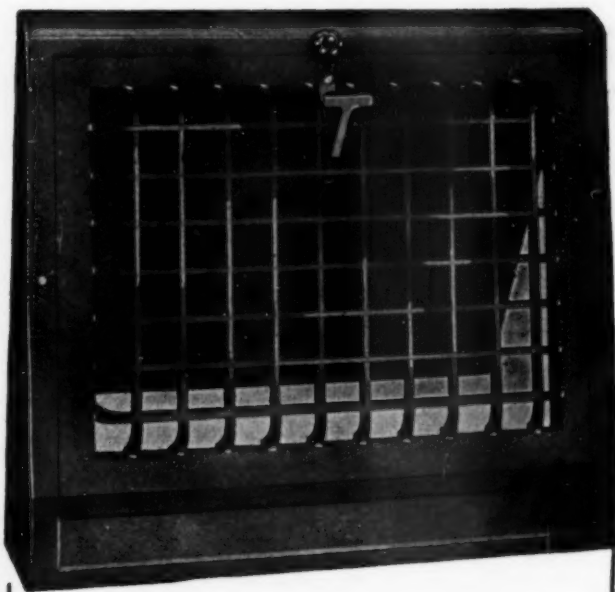
The ROBINSON is Electric Welded Throughout to insure absolute leak proof construction. It is furnished with one or two outlets as desired.

Notice that the radiator is supported independently—no weight on furnace drum.

New Dumping Device—One Piece Circular Grate—large water pan—lever shaker handle, and Shipped with front assembled are other features that you will appreciate.

The agency for the Robinson Steel Furnace means steady profits on a reliable furnace—write today for full details.

The A. H. ROBINSON COMPANY
MASSILLON, OHIO



Have you seen it? WALWORTH New Standardized STYLE B Baseboard Register

NOT only made throughout in accordance with the rules of the Standardization Committee but it is the *neatest* durable register ever made to sell at a popular price.

Simple, easy and accurate in operation, cast face made of the best iron, finished in all the popular finishes and made in the following sizes:

8x10	inch	2 1/4	base	extension
8x12	"	2 1/4	"	"
9x12	"	2 1/4	"	"
10x12	"	3 1/4	"	"

Study the features of this new register.

Write today for full particulars and prices on the Walworth New Standardized Style B Baseboard Register.

Order some for that next job—your customers will want them.

Made by the makers of Walworth Double Gratings, Semi-Steel Registers, Side Wall and Floor Registers, Ventilators, Borders and Casings Rings.

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It Won't Be Long Now!

The Boss gave Johnny a job that was too big for him and he came to grief. It proves that you can't expect a boy to do a man's job.

The same principal applies to your business, when you expect an ordinary furnace to heat a whole home comfortably, in long periods of severe weather, it also may prove too big a task.

If it fails, your reputation suffers more than the physical comfort of the customer who bought it.

You can avoid all doubt by installing "AFCO" Boiler Plate Furnaces. There will never be any question of failure. They stand up under all conditions, year after year. There are no kick backs.

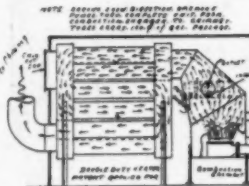
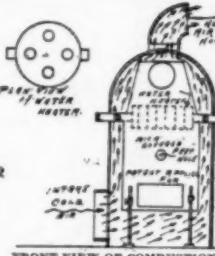
You want to make more money—we want to show you how to do it.

Write at once for the "AFCO" Dealer proposition. Why wait? American Furnace Company, St. Louis, Mo.



"It Can't Be Beat"

Other Furnaces Come and Go But "AFCO" Stays and Grows

MEYERS DOUBLE DUTY HEATER AND COMBUSTION CHAMBER

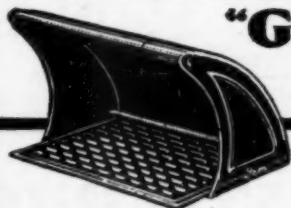
Fig. 1 shows combined fuel saving unit with burner in place. Arrows indicate volume of heated gases at top of fuel saver and small amount escaping into chimney.

Fig. 2 shows air flowing in at the bottom and up around the furnace and tubes to rooms above.

IF THEY DON'T BUY IT, THEY PAY FOR IT, ANYWAY!
We get every heat unit and put it to work . . . People can burn oil now cheaper than coal . . . We have a real money-maker for you, Mr. Dealer . . . Heat TWO apartments for the cost of ONE.

MEYERS FUEL SAVER CO., Inc. **Janesville, Wis.**

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Our increased national advertising should help every dealer to sell more "Gem" Register Shields this fall. Handsome—oxidized copper finish—indestructible—and adjustable to any size register—they are great popular favorites. Floor Shield retails at \$1.50. Wall Shield at 75c.



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BRILLION FURNACES

BE ABLE TO SHOW THE "HOTTEST" FURNACE ON THE MAP

BE in a position to offer quality that can't be beat. Notice that the Brillion is a real furnace—built to last long because it is built to withstand heavy and continuous firing. Made of highest quality material and designed to deliver a large volume of heat.

Here's the dope

You pay for nothing but quality furnaces at Brillion—and we make nothing but quality furnaces. Our overhead is low and that makes our prices rock bottom.

Just send the coupon for full details.

BRILLION FURNACE CO.

200-300 Park Ave., Brillion, Wis.

Send me full details and catalog No. 60.

Name.....

Address.....





Make More Money Clean furnaces this NEW QUICK WAY

PREPARE now to handle a larger volume of cleaning business. Five to eight furnaces a day can be cleaned with the Sturtevant Portable Furnace Cleaner. This new *quick* way increases profits 1/2 to 2/3.

Hundreds of people in your district will want their furnaces cleaned before fires are started up again but many will not think about it until the last minute unless you remind them now.

Right now is the time to get after these people. Send them a printed post card or circular telling them that their furnaces should be cleaned now—that the vacuum method is quicker, cleaner and more thorough.

You'll not only make a reasonable profit on the cleaning but you will increase your sales on repair parts. Many furnaces will need new parts and many houses will require new heating plants. Send back the attached coupon today for further information and price on this cleaner.



HYDE PARK,
BOSTON, MASS.

Dept. A. A. 8-27

B. F. Sturtevant Company,
Hyde Park, Boston, Mass.

Without obligation to me, send along further information and price on the Sturtevant Portable Furnace Cleaner.

Name

Address

City..... State.....

1602

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MASSILLON, OHIO

Makers of BOOMER FURNACES for Forty-Three Years



Standard Furnace Code
Computing Tables

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Figuring of Heat Requirements

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Warm Air Heating
and
Sheet Metal Work

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Etta Cohn
J. F. Johnson

Franklin Butler
Chas. E. Kennedy

G. J. Duerr
Frank McElwain

Eastern Representatives: M. M. Dwinell, J. S. Lovingham, 156 Fifth Avenue, New York City

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CHICAGO, AUGUST 27, 1927

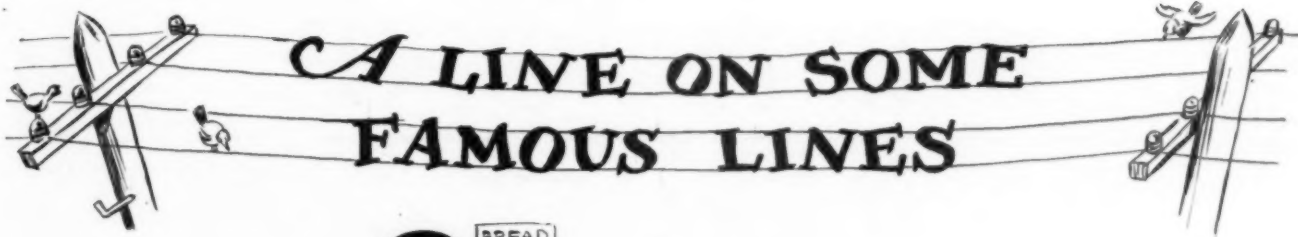
\$2.00 Per Year

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Dressing That Window

Sheet metal and warm air heating contractors have labored entirely too much under the impression that the products and services with which they work do not lend themselves readily to display. This is a fallacy that has kept the sheet metal and warm air heating industries from taking their rightful places in the scheme of service rendering industry today. One of the objects which AMERICAN ARTISAN hopes to accomplish is to show its readers that sheet metal and warm air heating does lend itself easily to many kinds of displays, and that progressive contractors in both industries are doing it every day.



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Our 80th Annual Catalog will give you a line on the T&B Line. Just sign on the dotted line in the coupon below and a copy will go forward promptly.



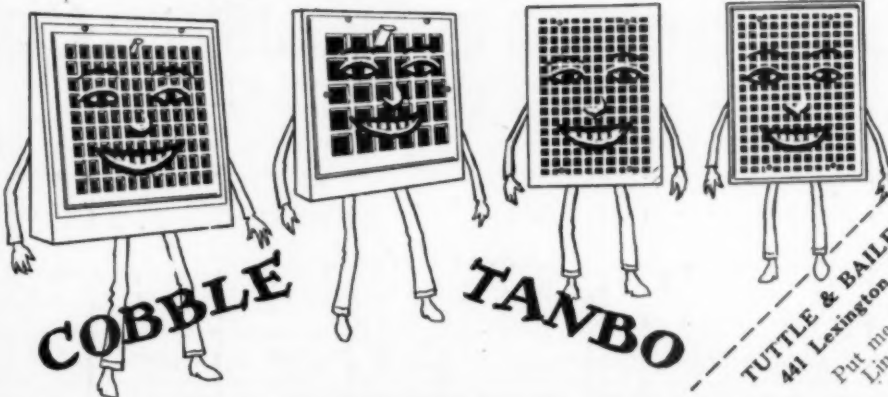
TUTTLE & BAILEY MFG CO.

Established 1846

441 Lexington Avenue, New York City



The T & B LINE ~



TUTTLE & BAILEY MFG. CO.
441 Lexington Avenue, New York City

Put me in line for your latest catalog covering the T&B Line of Registers and Faces.

Name.....

Address.....

A.A.-8-21-27



THREE IN ONE

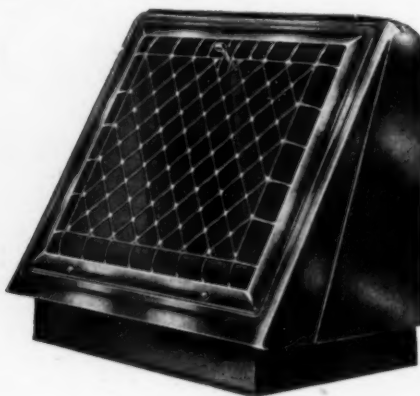
DESIGN---BEAUTY
CAPACITY
FINISH

Compare Jones-National and National Finish, Quality and Workmanship with Other Lines Taking Same List and Discount.

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Complete with
Double Metal Boxes



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Sets Outside of the Wall

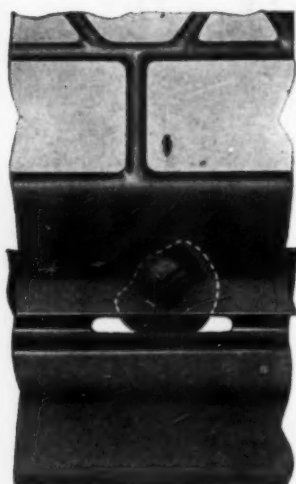


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Supply Houses

Everywhere Warm Air Heating Plants are Installed

When writing mention AMERICAN ARTISAN—Thank you!



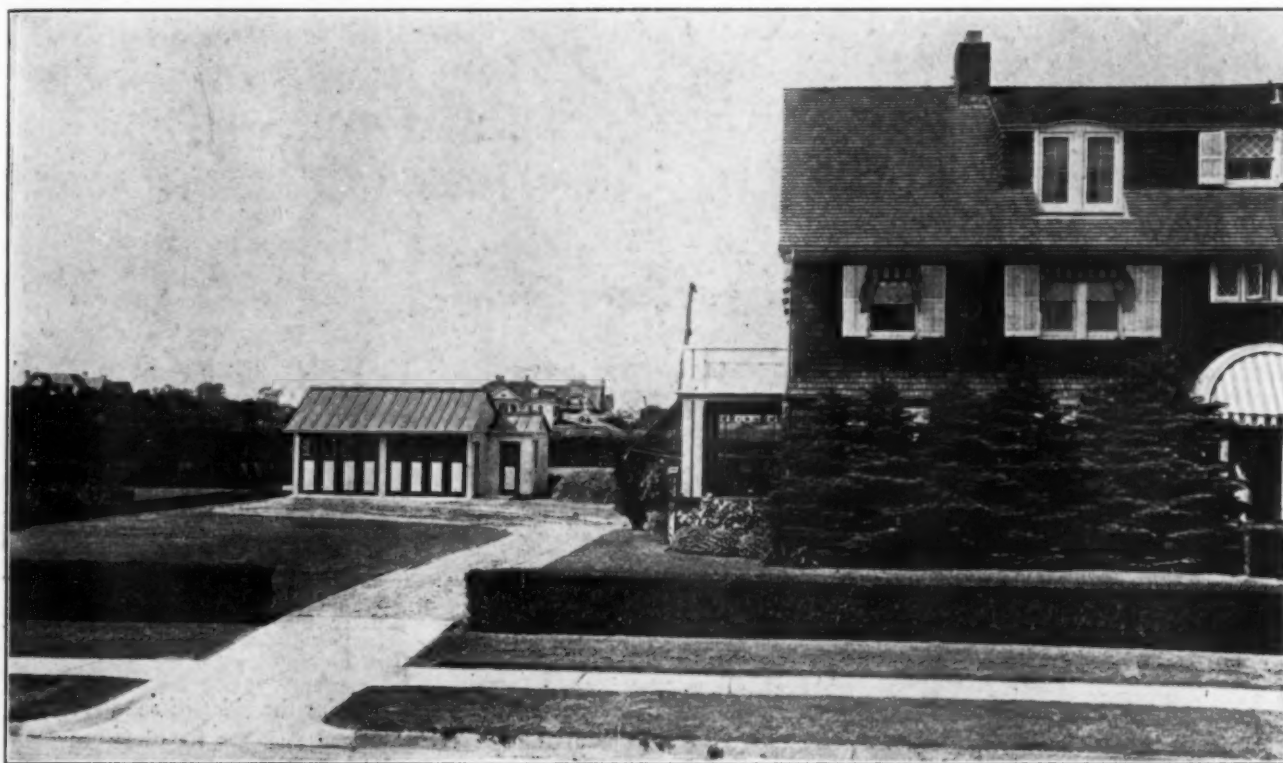
American Artisan and Hardware Record



Vol. 94

CHICAGO, AUGUST 27, 1927

No. 9



General View of Part of House and Lawn at 8 Passaic Avenue, Spring Lake, New Jersey, Showing Artistic Steel Garage

New Design All-Steel Garage Lends Beauty to \$60,000 Dwelling at Spring Lake, New Jersey

This Type Garage Meets All Requirements of Most Skeptical Builder

FOR a long time it has been contended by the Sheet Steel Trade Extension Committee of Pittsburgh that garages of sheet steel could be developed which would be architecturally artistic and suitable for association with fine homes.

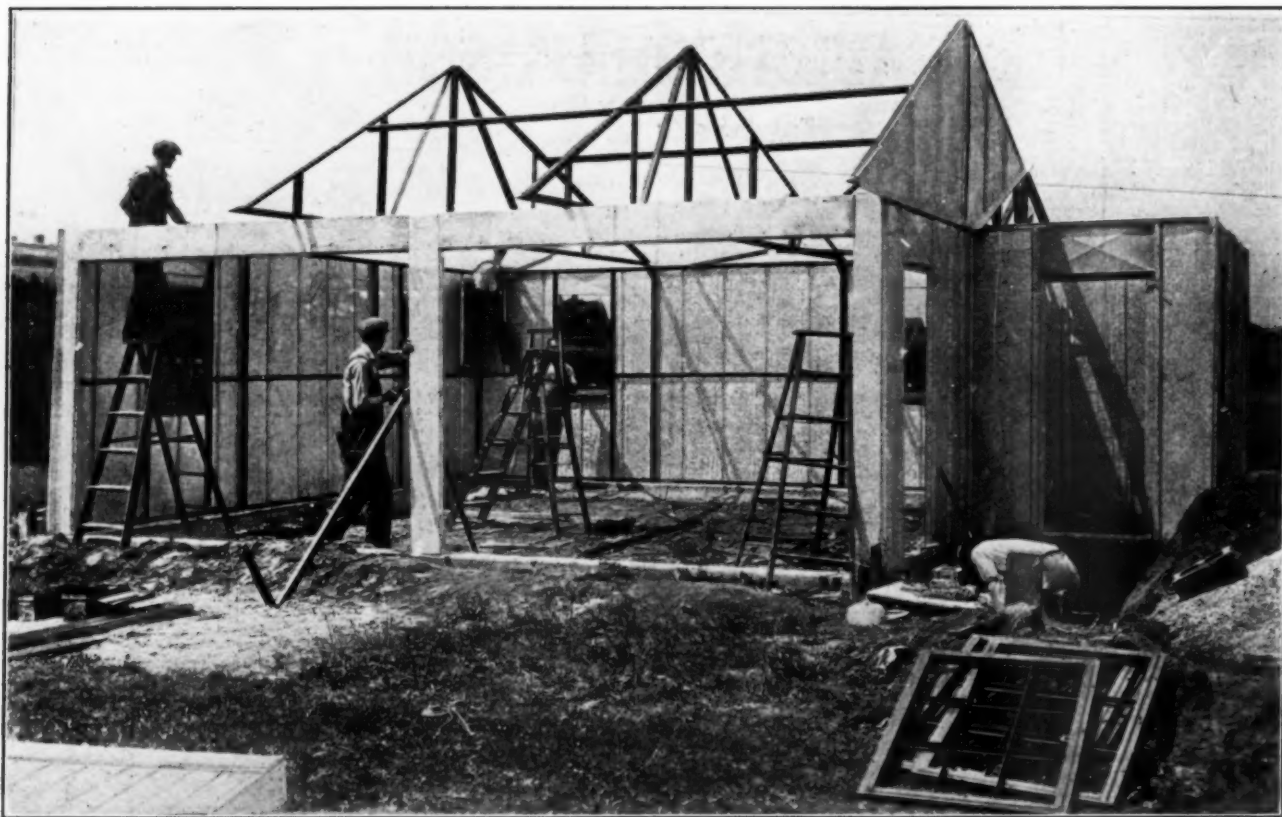
The stability, permanence and economy of sheet steel for garages had, it was felt, been amply and conclusively demonstrated by the thousands upon thousands of sheet steel garages of commercial stock designs in use everywhere.

What had to be done, then, was devise practical means of producing artistic individual garages to conform to individual requirements. To accomplish this, so that such garages could be put within a cost comparable with the cost of individually built garages of other materials, was the problem.

Accordingly, arrangements were made whereby competent architects would supply idealistic designs embodying their individual conceptions of architectural merit and af-

fording complete practicability from not only the standpoint of sheet steel construction, but also from the standpoint of service. It was also stipulated by the committee, and adhered to by the designers, that these designs should all be amenable to fabrication with the standard equipment of the ordinary sheet metal shop.

The twelve idealistic designs provided are extremely attractive. They are, of course, subject to elaboration and modification, both di-



Artistic All-Steel Garage in Course of Erection.. Note Steel Angles Used and the Manner in Which the Frame Is Bolted to the Foundation

mensional and structural, to meet individual requirements. This is the factor which distinguishes them from the many excellent standard commercial sectional garages built by various manufacturers on a production scale.

Now one of these artistic garage designs has been made a reality. Adjoining a sixty-thousand-dollar house, and fronting the street at 8 Passaic Avenue, Spring Lake, New Jersey, one of the most fashionable sea shore resorts along the Jersey coast, it stands not merely as a utility, but as a decorative architectural feature of the estate.

It remained for the R. T. Bowman Company, Trenton, New Jersey, to be the builder of the first artistic sheet steel garage based on a design of the Sheet Steel Trade Extension Committee. Drawings of the artistic garage designs which had been developed had been sent them.

They received an inquiry from a gentleman living at Spring Lake, New Jersey, for a two-car garage

to be built in connection with his fine residence. They, therefore, produced the Sheet Steel Trade Extension drawings of artistic garages and explained them in detail. The prospect immediately exhibited great interest. He wanted to know all about the possibilities for attractiveness, etc., and asked many questions. Naturally, he was skeptical about the possibility of carrying out the idealistic design in actual sheet steel construction as such a thing had not been done before. However, he gave instructions to proceed.

First of all, the builder put in an 8-foot concrete footing, 3 feet in the ground, with a good concrete floor draining in the center and a 3-foot apron across the entire front of the building.

Construction consists of 2-inch angle irons for the girt, uprights and trusses with an 8-inch channel iron running across the front and taking care of the doors, which are the sliding type with the track inside. Twenty-four-gauge sheets were

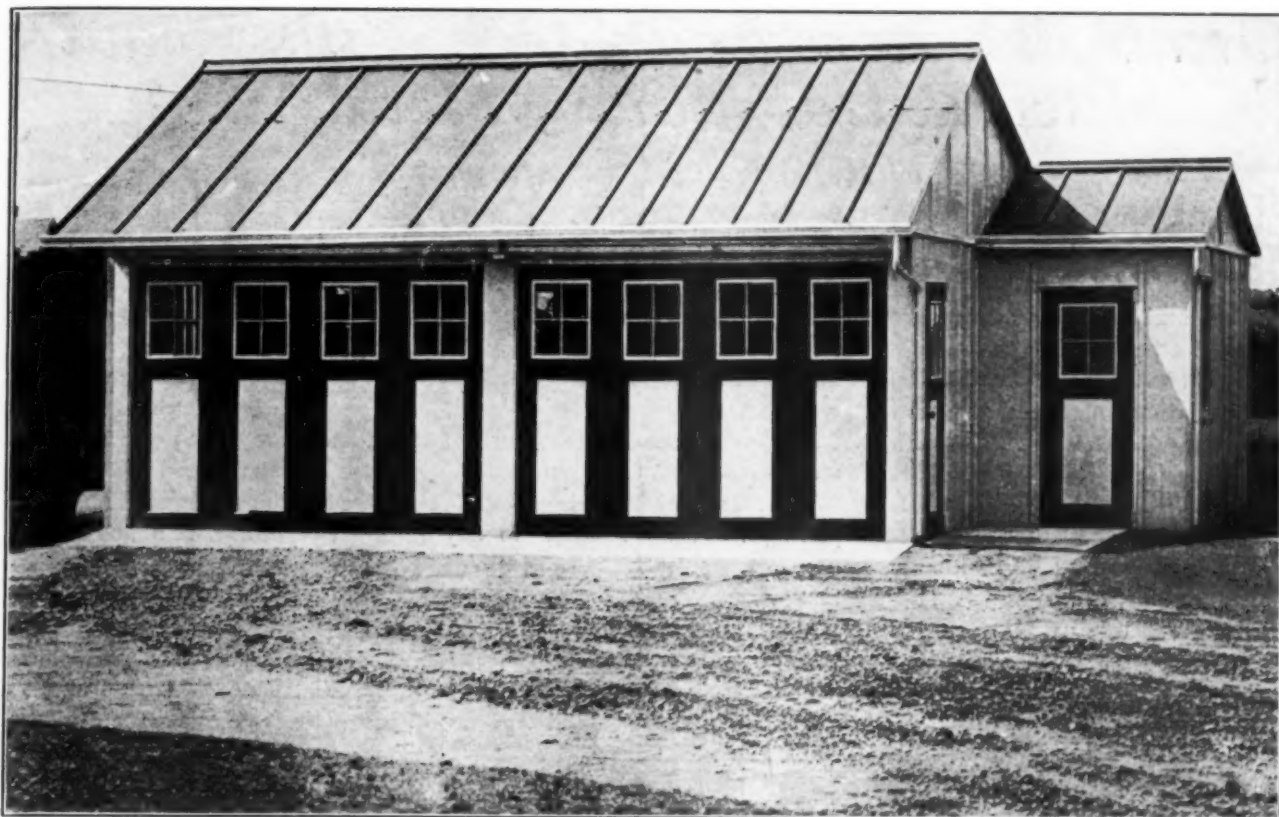
used for the sides of the garage and 26-gauge sheets for the roof.

The windows are casement type with steel sash swinging out. The little offset or wing is divided into two small rooms, each 5x6½ feet. One of these is used as the butler's dressing room and the other is used as a lavatory for the chauffeur and the butler.

It took one week to fabricate the building and three days to erect it on the site after the material reached Spring Lake.

The garage was painted white with brown trim, the finished effect being strikingly attractive.

Thus artistic sheet steel garages have become a reality. One of the splendid fundamental designs has been erected and not only the owner of the fine home in connection with which it was built, but the contractor and everyone else who has seen it as well, is enthusiastic about it. It is a success and it is concrete evidence that fine garages for association with fine homes can be economically built of sheet steel. This



Front View of Artistic Steel Garage Built at Spring Lake, New Jersey, Showing Offset at Side and General Architectural Attractiveness. The Overhang of the Roof at the Front Is Not Especially Conspicuous in the Photograph, but It Forms One of the Attractive Features of the Building and Is Very Graceful

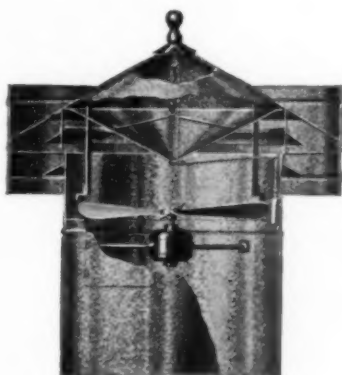
garage at Spring Lake, New Jersey, has all of the architectural beauty, all of the refinement of appearance, all of the permanence, all of the fire safety and all of the inherent convenience that could possibly be provided by a garage constructed of any other material.

Building and sheet metal contractors everywhere may take inspiration from the experience of Mr. Bowman. There is a wide field of opportunity in every community, particularly in the fine residential neighborhoods where householders regard the enhancement of their home surroundings as one of the prime requisites in the selection and construction of a garage design.

This story of the sale and erection of the first artistic sheet steel garage is evidence that such buildings can be sold. To alert contractors it will serve as a challenge to action, for it is significant of profitable enterprise. Unquestionably other artistic garages will be reported in increasing number as time goes on.

Burt Manufacturing Co. Develops New Type Forced-Gravity Ventilation

The Burt Manufacturing Company, Akron, Ohio, makers of oil filters, oiling systems, exhaust heads and ventilators, has recently per-



The Burt Ventilator

fectured and placed on the market a device known as the Burt direct connected fan ventilator for removing fumes, odors and undesirable gases from workrooms, etc.

This device is in effect a com-

bined gravity and forced air proposition. Its construction includes an electrically-driven fan that is placed directly in the air shaft or neck of the vent. The fan connection, the manufacturers state, insures positive ventilation at all times. When abnormal ventilation is required the fan is turned on and the ventilation is instantaneous. When conditions return to normal the fan is shut off and the forces of gravity are employed alone.

The damper chain of the device is equipped with a fusible link, which function to close the dampers in case of fire.

This new device has been designed to fill a ventilating need that has been felt by construction engineers and architects for a long time. Full information can be had concerning the ventilating device by writing the Burt Manufacturing Company, Akron, Ohio.

The accompanying illustration shows a cross-section of the ventilator as it is equipped with the fan and fusible link damper chain.

Grain Elevators and Spice Mills Require Much Extraordinary Metal Work

Sketch Shows Development of Pattern for Inclined Hopper

By O. W. KOTHE, Principal St. Louis Technical Institute

IN spice mills, grain elevators, and many other places where materials are handled by gravity, various types of chutes must be made, and these are ordinarily connected with some type of hopper. More and more these hoppers are being made of metal, and that, of course, requires more skill and work for the trade. In our case the elevation has the sides run to an angle of 45 degrees, while the top slopes on an angle of 16 degrees from the horizontal. If we observe the plan, we see that the square pipe is also placed off center, since, no doubt, the chute must be placed in this

position to avoid other obstructions. From this we can see that everything on the design is irregular, and being so, it shows to what extent triangulation can be employed to arriving at an accurate pattern.

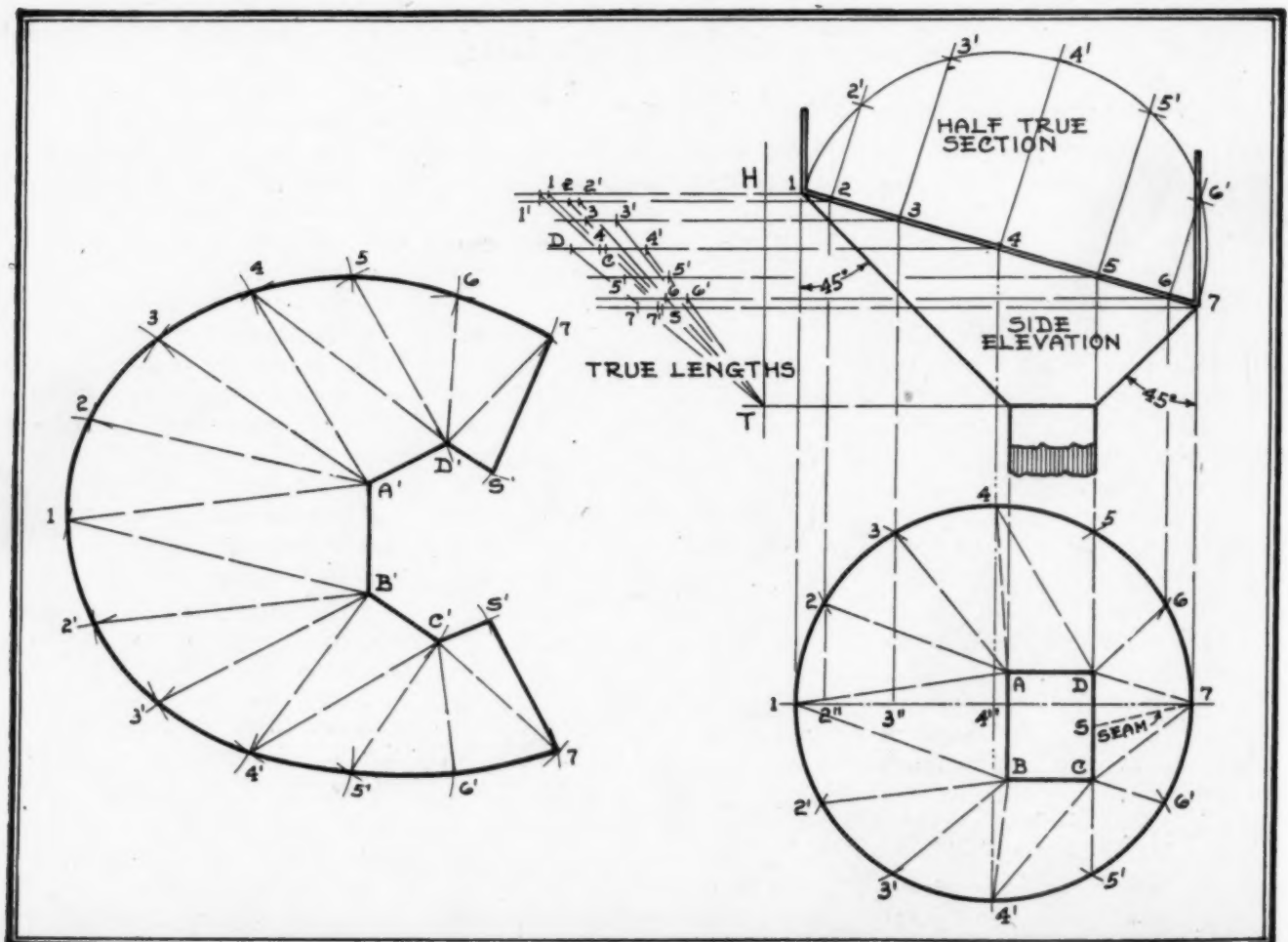
We first draw the side elevation, placing the slant line 1-7 to any degree desired, and also the side lines leading to the chute in the position measurements may dictate.

Then from this we develop the plan describing the circle and placing the position of the chute A-B-C-D. We next divide the outline of plan into any number of equal parts or 12 in this case and

draw lines to the corners A as from points 1-2-3-4 and then from 4 we draw lines to D-7.

From B we draw lines from 1 to 4', and from C we draw lines from 4' to 7. The seam line 7-S can be placed in the center of chute or any of the other lines if desired.

Now since our circle of plan is a foreshortened view, we must develop a true half section through line 1-7 of the elevation, this slant line being longer than the circle of plan. So from each point, as 1-2-3, etc., to 7 of plan we erect lines to cut the line 1-7 of elevation and from here we square out lines per-



Patterns for an Inclined Hopper

pendicular to 1-7. With dividers pick the lines 2-2", 3-3", 4-4", etc., from plan and set them as 2-2', 3-3', 4-4', etc. Through these points draw lines and you have the true section of the girth along the slant line of elevation.

In determining the truth lengths, we observe the base where the chute attaches to the hopper is a horizontal line and this is then a working basis to start with by projecting lines over to a vertical line H-T. Do this for each of the points 1-2-3-4-5-6-7 of elevation to line H-T and extending them slightly. Observe this gives the altitudinal distances how much one point rises above the other in the distance covered. Then if we pick plan line as A-1 and set it as H-1, 1-2 will be true length.

Observe in each case we must use the line H-T to set on, but the altitude changes so that plan line A-2 will set on the second line from H,

while plan line A-3 will set on the third line. We have also changed the numbers for the bottom half of plan as 2'-3', etc., to distinguish these points from the top half. In this way the pattern can be developed by following numbers up progressively, which makes it much easier than working backwards.

In developing the pattern we draw any line as A'-B' equal to this line in the plan and then we pick true length T-1, and using A' as center, we strike an arc as at 1. Then we pick the true length T-1', and using B' as center, we cross arcs in point 1 of pattern. Now we use the space 1-2' of true section and 1 in pattern as center, we strike arcs as at 2 and 2'. Next pick true length T-2 and T-2', and using A' as center, cross arcs in point 2 and then use B' and cross arcs in point 2'. Continue in this way until points 7-S' are established. After this draw lines

Big Crowd Enjoys Two-Day Outing With Michigan Sheet Metal Men

Bill Busch and His Committee Made August 18 and 19 Big Days at St. Clair Flats

THE story of Michigan's 12th Annual Outing was scheduled to be told in pictures exclusively this year, because it was promised that the action would be fast and it was all that it was cooked up to be.

However, there are a few things which we have to say and one of them is that everybody did have a ripping good time.

About 150 men, women and children followed in ranks behind a band down to the docks Wednesday noon and there boarded the river steamer Wauketa.

A pleasant two hour ride—new to most of the outers—took us down the Detroit River, through beautiful Lake St. Clair and then into the St. Clair River, passing through the Thousand Islands of the St. Clair, the boundary line between United States and Canada.

Arriving at the Flats we soon docked at Miller's Hotel, situated

on an island just a little larger than the hotel—so none could wander far unless he had a boat.

It wasn't long before the boats were put into use, because the overflow crowd made it necessary to put up some of the boys at a cute cottage across the canal. After a chicken dinner, no one minded the rain and card games, singing and dancing with occasional visits to the club house for relaxation were the orders of the evening.

Bill Busch, Bill Sullivan, Joe Wittstock, Al Bershback, Tom Marshall, Frank Ederle, Harry Rhodes and all the rest of the getters beamed Thursday morning, because old Sol was out.

There were those who went riding in launches, others liked the speed boats, all furnished by the Association, while some played horse shoes.

Bill Sullivan, Sid Swindells and

Bill Busch, Jr., did some plain and fancy diving, and others practiced for the card game.

The ball game, you can't have an outing without one, got under way and the Detroit boys won 5 to 2.

The Line-up.

Detroit	Michigan
B. Bush, Jr. . . ss . . .	A. S. Ward
S. Swindells . 1st b. . .	D. Lameroux
A. Bershback, Jr. P . . .	Al Nyden
B. Sullivan . . . C . . .	F. Kuebler
J. Farber . . . 3rd b . . .	B. Klopff
J. Doggendorf 2nd b . .	H. Brundage
F. Bishop . . . 1 f . . .	G. V. Molen
E. J. Morrissey r f . . .	Fred Ruehl
Gene Lang . . . c f . .	Gus Ederle

Mat Friedman and Adam Schep- per survived the game as umpires.

The playing field was bounded on three sides by water so a fish net attached to the end of a 12 ft. pole rescued the ball every now and then from a watery grave. During the ball game, card games were played on the long veranda. The races and games were run off in quick fashion and the winners took home some dandy prizes.

The aviation test for men gave the crowd the biggest laughs and Ros Strong and Homer Brundage "flew" the farthest, but did not win because their controls failed and they made forced landings way off the landing field.

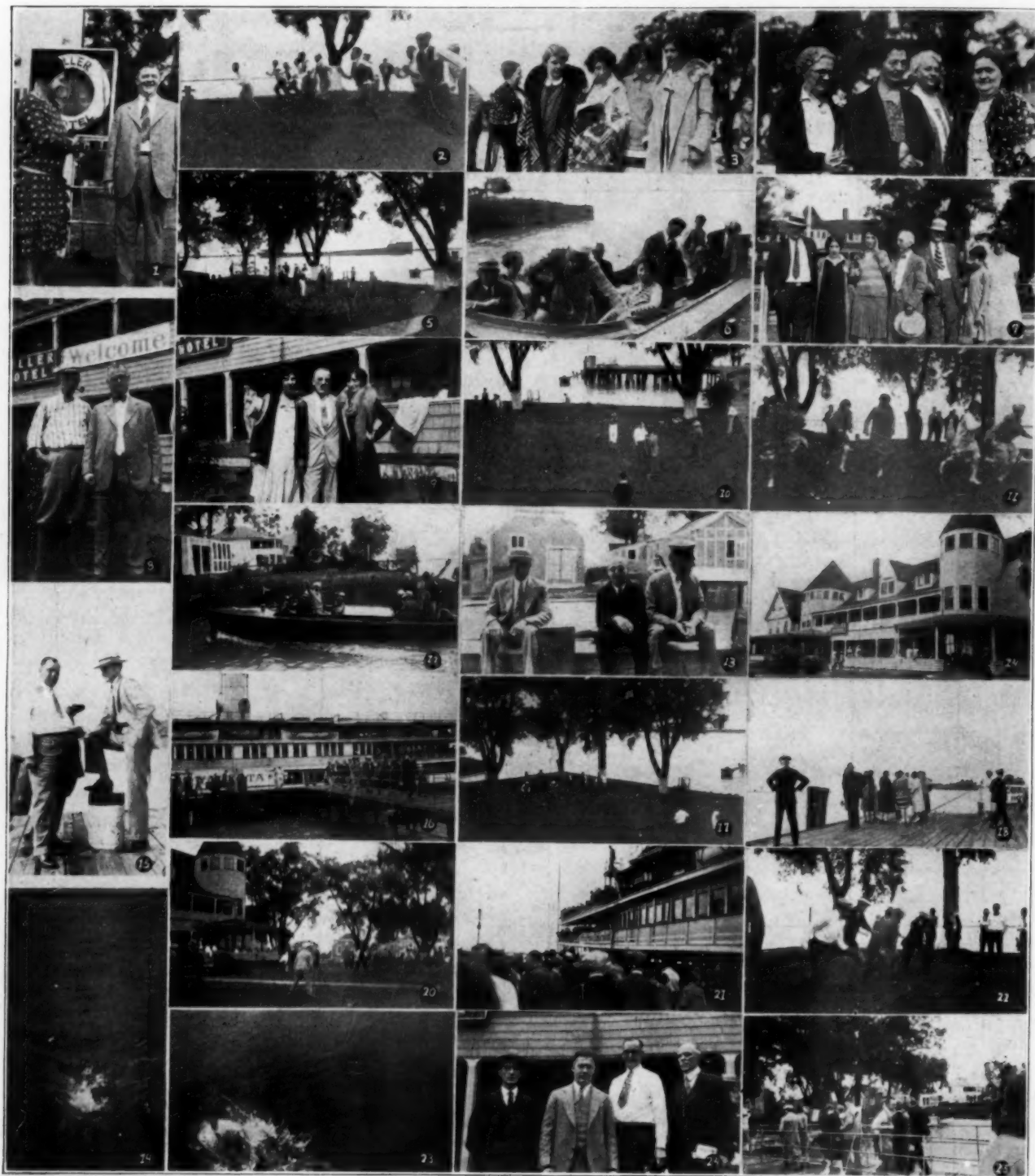
Thursday evening a surprise banquet greeted the outers on entering the dining room. Balloons and noise makers, paper caps and whistles were all set out and the fun lasted throughout the evening.

The ladies received handsome compacts as souvenirs and the men were presented with honest-to-goodness cigar lighters.

The Detroit boys and especially Bill Busch saw to it that everything for the convenience of the folks was provided.

Tony Howe, J. G. Henninger, Mr. and Mrs. George Vander Molen and the American Artisan delegation liked the speed boat so well they bribed the owner to take them back to Detroit in it. A fitting end to a pleasant two days outing, every minute taken up in real fun with Michigan's best.

Picture-Story of Michigan Sheet Metal Outing



(1) Mr. and Mrs. Frank Ederle. (2) "They're Off"—a footrace scene. (3) Mrs. Frank Daly, Mrs. Wm. Busch, Mrs. Ros Strong, Mrs. Homer Brundage and little Billy Sullivan. (4) Mrs. A. J. Berschback, Mrs. J. Reis, Mrs. Anthony Reis and Mr. A. M. Basman. (5) An argument over umpire's decision during the ball game. (6) Then there were boat trips on the river. (7) The sun came out nice Thursday morning and the pier was the favorite "sun parlor." Here we have Frank Daly, Bertha Cohn, Etta Cohn, Harry Rhodes, Adam Schepper and his two daughters, Harriet and Marjorie. (8) Fred Bishop and Martin Armstrong. (9) Mrs. H. M. Tovar, Tommy Thompson and Marie Baxter. (10) Pitcher Al Bershback, Jr., disagreeing with Umpires Mat Friedman and Adam Schepper. (11) This is how the girls looked in the races. (12) And then there were some speed boat rides also. (13) G. C. Cook, Ros Strong and A. S. Ward. (14) Miller's Hotel, St. Clair Flats, Headquarters. (15) Al Bershback and Bill Laffin. (16) The crowd arriving at the island. (17) Homer Brundage knocking one out. (18) Just another pier scene. (19) This is Bill Busch, Jr., diving. (20) And this is another baseball scene. (21) This, friends, is the second Detroit delegation coming off the boat and being received royally by the crowd. (22) The boys over sixty showed some speed also. (23) Here is Bill Sullivan diving, or maybe this is Bill Busch's picture—hard to tell them apart this time. (24)—E. J. Morrissey, Gus Ederle, Bill Sullivan and W. W. Chalk. (25) Some of the Detroit arrivals Thursday.

Educate Public to Use Sheet Metal and Bring Back Specialist

Public Again Turning to Sheet Metal—Industry Should Grasp Opportunity

By H. T. BRANT

QUOTING from a recent article in *AMERICAN ARTISAN*: "Roofs, flashings, gutters, and drain spouts all have their place. Outside work of this type is almost a trade in itself."

Harry Becker, Peoria, Illinois, surely "said a mouthful," when he made this statement, and it is in behalf of this group of fellow journeymen that I wish to say a few words.

This is an age of specialists. Some professional men take up special work because of a desire to attain the utmost proficiency in some particular branch of their vocation, or for the large monetary returns such knowledge and skill will bring, but in our trade this is not so. A sheet metal worker becomes a specialist only when he reaches the limit of his ability.

A few years ago, a "cub" or apprentice, entered the shop with a limited common school education. He received his training, generally with the outside men, and regardless of his ability, his entire apprenticeship was served in this line. He was condemned to this service by His Majesty, the "cutter," who was generally the foreman and who was jealous of his superiority and unwilling that any should share with him his particular qualities. Therefore the embryo mechanic became a "gutter snipe" or "eyebrow man," or in other words, a "specialist." This is one class of sheet metal specialists.

Times have changed, and since the reins of government in the "Tinshops" are gradually being wrested from the hands of His Majesty, the "cutter," and transferred to those of the "boss," who is another "specialist" especially qualified as a business executive

and generally ignorant of the mechanical or technical tactics required in the productive organization, the "all around" sheet metal worker comes into "his own" and procures the all-year or steady jobs, while the "gutter snipe" specialist is periodically out of work. In this day of organization, when the specialist receives the same scale of wages as the "all-around" technical man, the specialist, who is unable to handle the shop work, is naturally eliminated by the "cold blooded" old man in the office, when the slack time comes.

Then we have the other sheet metal specialist. I refer to the workman who is mentally disqualified—no, I do not mean "mentally," but the one who is not technically inclined. The one who makes the very best mechanic, where his work requires a "strong back," but who could work at the trade a lifetime and never be able to cut a pattern for an acid swab. You know the type. I am frank with my accusations, but nevertheless, we have them. They are out of a job almost every winter, and if they "happen" to read this rambling article, I hope they take no exception to it as I am writing for their benefit.

Trade schools in all the large cities are turning out technically trained men to fill the shops, and believe me, I am heartily in favor of the program, as it will gradually raise the standard of our calling and place it within the ranks of the professionals, rather than the old fashioned "tinnerns" of a few years ago.

I probably should not speak in derision of the old-fashioned tinnerns, as I learned my trade under the tutelage of my father, who was one of the old-timers. He was of

the old school of assortment workers, and I take my hat off to all of them.

Quoting again from the article referred to a while ago, which said: "A few years ago, the man who could make the standard seams and run on solder was considered a 'tinner.' Now, however, he must be able to design and lay out a new job as well as make the joints to be considered a good workman."

Let me take exception to the above statement, and say that the man who can make a coffee pot, wash boilers, or "Dutch" bucket, knows that the proper flux for soldering tin is rosin, that a "bumping hammer" is not to drive nails with, that you do not sit down to use a "setting down" machine, a "wooden former" does not refer to a well known make of cornice brake, a solder board was not used to smear solder on auto bodies, and there is a difference between a "thick-edge" and a burring machine, and cut a pattern for a smoke jack, or find the circumference of a circle, without the use of triangulation or geometry, and that the figures are placed on a steel square for a purpose, and not just simply to fill up the space, then I say he might call himself a Sheet Metal Man with capital letters.

But in between the times of the old time "tinner" and the present day technical sheet metal worker or all around man were created the two classes of specialists I have referred to, and we will always have them with us. When the present group are retired to the ranks of the floating "tinks," a new crop will be recruited from the army of trade school graduates.

Some of them will naturally become specialists, because of their

tendencies to become lax in their studies, and also because of the demands of the shops that require men of this calibre to take care of this class of work. Because of their better training, they will fill the places of the present day furnace men, roofers, outside men, etc., and then our present specialists will be compelled to go to the poor house or eat snow-balls, unless something is done to make jobs for them, and now I am coming to what I have been wanting to say all the time.

Tin roofing has become almost a

lost art. Where we formerly put on hundreds of squares of tin every year, the average shop now does not put on a tin roof once in six months. Asphalt felt, asbestos, and other materials have displaced tin almost universally. Why? Tin roofing is just as cheap as the other substitutes. The first cost may be a little more, but when you put on a tin roof that will outlast three of any of the substitutes, the tin is far cheaper.

But the public does not know this. The sheet metal men have al-

lowed other roofing people to step in and take the business away from them. How has this been brought about?

In the first place by inferior work. To meet competition, a cheap grade of tin was used. To save solder, acid was used as a flux and the solder barely skimmed on. A few years ago a certain man that I was working for sent me out to put on two squares of flat lock roof with three pounds of solter. I managed to slip out another bar while he wasn't looking, but I surely had to



New Illinois Hotel, Aurora, Illinois, Now Nearing Completion. The Sheet Metal and Ventilating Work on This Structure Was Complete by George J. Bushman, Sheet Metal Contractor, 57 South La Salle Street, Aurora, Illinois

do some "skimming" to stretch the solder over that roof. Needless to say, the seams split and the roof was replaced in less than two years. Is it any wonder that we lost a good customer for tin roofing?

And then again, most of the roofs were put on without a drop of paint being used.

Right here is where our competitors came in and substitutions rapidly took the place of tin.

If the sheet metal men had kept up with the times and advertised, as the other roofing material folks did, this condition would not exist now, but the majority of the roofing jobs would still be tin, as they should be, as there is no doubt at all but that tin is the best roofing material in the world.

Right now, a disgusted public is again turning to tin roofs. I have laid more tin in the last two years than I have put on in twenty years. Now is the time for us to get busy on an advertising campaign.

A few days back I was looking at a tin roof that my father and I put on in 1897, thirty years ago, and it is in just as good condition now as when new. There are numerous roofs over the country which have been on fifty years. Why not photograph some of these jobs and use them in an extensive advertising effort to bring tin roofing back into style? You cannot pick up a magazine or newspaper without having your attention called to the superior qualities of some asphalt or other roofing material. Let us advertise tin in the same manner and in a short time we will be busy laying tin. When we have created this demand we can keep it, if we put the roofs on in the very best manner that we know.

Another line of our work which could be put back to where it was thirty or forty years ago is the business of spouting.

I know that you will not all agree with me when I say that tin gutters and conductors, soldered with rosin and painted inside and out, are far superior to galvanized iron.

I have come to this conclusion by observation. When I see tin gut-

ters that I myself put up twenty-five years ago still in place, I cannot say anything else.

I know where there is a tin conductor head that was made and placed on a building in 1832.

Enough of this, but if we bring back our work, through the education of the public, to where it should be we will have fewer slack times, and the winter months can be utilized in making up gutter and conductor stock, and our "specialists" can be kept busy, and we can create work to take care of all the graduates of the vocational schools who will soon be clamoring for a place in the shops.

Data on Oxwelded Roof Trusses Made Available by Linde Air Products Co.

The Linde Air Products Company, 30 East 42nd Street, New York City, has recently published a 7½x10½-inch booklet entitled, "Oxwelded Roof Trusses," which is in effect a study of insert plate joints in the Fink type roof trusses, by H. H. Moss of the Development section, engineering department of the Linde Air Products Company.

The publication consists of a report of the design, development, fabrication and testing of a series of oxy-acetylene welded roof trusses of the Fink type. The work begins a program by The Linde Air Products Company looking towards the practical utilization of the oxy-acetylene process in the fabrication of structural steel.

The publication places at the disposal of structural engineers and all men working with the joining of structural steel and trusses information about the tensile strength of the welded joints which has not been heretofore available. The report is fully illustrated with plates showing how the welds of various kinds were made and the various pressures they were subjected to in the tests.

There is incorporated into this booklet information that can be turned to a good account by any sheet metal man whose activities include the oxy-acetylene welding

torch, and each and every sheet metal man should avail himself of the privilege of gaining this added knowledge by writing for a copy of the booklet.

Evans Sheet Metal Works Being Opened at Bartlesville, Oklahoma, Sept. 1

W. T. Evans, Box 1044, Bartlesville, Oklahoma, will open a sheet metal establishment in that city about September 1, 1927. The shop will operate under the name of the Evans Sheet Metal Works.

Mr. Evans will be in a position to handle any kind of work in the sheet metal line. He has had 23 years of experience in the field, the latter eleven of which have been spent in the city where his shop is being located. Mr. Evans is desirous of receiving catalogs from manufacturers of sheet metal products.

National Ladies Auxiliary Appeals for New Members

The Ladies' Auxiliary to the National Association of Sheet Metal Contractors, in order to give all the ladies who attended the Louisville convention and all those who will probably attend the Cleveland convention next year an opportunity to be listed as charter members, are still holding the charter of the newly formed organization open, according to a statement issued recently by President Mary O'Leary.

In order to become a member it is only necessary for you to send your check for one dollar to Mrs. J. W. Bowers, 2518 Saunders Avenue, San Antonio, Texas. This will pay your initiation fee and your dues for one year.

W. H. Smith, Northern Illinois Lennox Representative, Visits Chicago

Mr. W. H. Smith, who travels the Northern Illinois territory for the Lennox Furnace Company, was in Chicago on Monday of this week calling on Lennox dealers. Mr. Smith resides in Rockford, Illinois, and covers his territory from that point.

Kearney, Nebraska, Sheet Metal Man Makes Business Prosper

*Applies Principle of Square Deal
Service and Sees Business Grow*

AS ever large oak trees from small acorns are still growing. So likewise it still is with business.

ness can be made to grow and prosper and finally develop into one of ever widening scope.

warm air heating and sheet metal contracting business just four years ago. He began in a small way by repairing automobile radiators, bodies and fenders. Then came a call for tanks, troughs, steel grain bins and sheet metal cupolas.

From this small beginning Mr. Engberg progressed into the erection of cornices, gutters, ventilators and skylights. At the present time he has three men working steadily for him the year round.

The accompanying illustrations show a float which Mr. Engberg entered in the Independence Day parade at Kearney, Nebraska, his shop, his two little daughters, Mr. Engberg himself and a typical advertisement used by him to acquaint the public with the fact that he is in the business of making them comfortable.

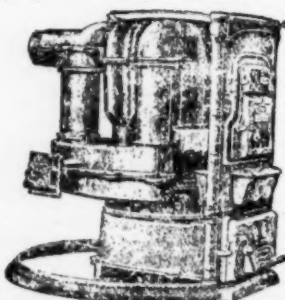
The shop he built last summer. It is 25 by 80 feet, with a warehouse to the rear and a working



Store Front and Shop of Herman Engberg, Sheet Metal Contractor at Kearney, Nebraska. Note Ventilator on Roof of Building and on Ground Before the Store

With the application of correct principles and a willingness to render actual service, the smallest busi-

This is proved by the instance of Herman Engberg, Kearney, Nebraska. Mr. Engberg entered the



RUDY HY-POWER DIVING FLUE FURNACE

The low cost of the RUDY is not the big reason why you should have one. There are many things in this world that cannot be figured in money. What it is worth to you, in dollars and cents, to have every room in your home comfortably heated all winter? What is it worth to you, your wife and children, to avoid continued colds that so often develop into pneumonia, due to poor heating conditions—such as little or no circulation, no ventilation, no humidity—the air being stale, dry and stiff? Unless your heating plant is designed as to control and maintains the proper circulation, this condi-

Dependable Heating At Low Cost

tion will exist. You cannot put money value on the health, comfort and convenience that you owe yourself and family. If performance means anything to you—if you care at all for the very utmost in heating your home—the RUDY System of Home Heating is bound to win you. We are here at your service. Allow us to make you a heating plan to exactly fit the requirements of your home. Can be installed in a home already built as well as installed in a new home.

Engberg's Sheet Metal & Furnace Works

2220 1st Avenue

Phone Black 1022

Typical Warm Air Heating System Advertisement of the Engberg Sheet Metal and Furnace Works Appearing in the Kearney, Nebraska, Local Paper



Herman Engberg Himself and His Two Small Daughters Standing Before the Float Used in a Recent Parade in the Old Home Town

space to one side. Mr. Engberg's experience should be an inspiration to other men contemplating entering the sheet metal business.

Union Leader Says Sheet Metal Wages Cannot Be Forced Higher

The drive by employers to reduce wages and union standards in the building trades was scored by John J. Hynes, president of the International Sheet Metal Workers' Association, at a recent convention of the union at Atlantic City, according to the New York *Herald-Tribune*.

Asserting that the union was well able to maintain its position, Hynes declared that during the last three years the workers have enjoyed "better wages, working conditions and steadier employment than at any time during the life of our organization."

At the same time, however, Hynes warned the convention that the boom in the building industry was gradually receding "to what may be termed at best a normal condition, making it advisable to pursue a policy of holding on to the gains made by the union for the next two or three years at least, rather than seeking further improvement at this time."

This was emphasized also in the report of the executive committee, which declared that "wages, in our opinion, have about reached the

maximum for the next few years."

Hynes declared that lack of continued co-operation, particularly on the part of large contractors, "makes it impossible for the National Board of Jurisdictional Awards to attain the point of perfection it otherwise might."

Whitney Metal Tool Co., Rockford, Ill., Develop New Angle Iron Shear

The Whitney Metal Tool Company, Rockford, Illinois, has recently put on the market a No. 62 angle iron shear which is very simi-



The Shear

lar in appearance and has the same working principle as their No. 4 angle iron shear, only it is a heavier type, having a capacity of 3"x3"x 1/4" angle iron or lighter.

This shear has an eccentric gear so the leverage is equally distributed over the entire cutting blades, and there is also an adjusting screw provided so all angles can be cut off square. A self-clamping pad is used in this machine for holding angles in position and a flat bar handle, milled to fit the socket which prevents any loss of movement, is furnished with each shear.

The material is the best obtainable and all parts are made in drill jigs and fixtures so they are interchangeable; all wearing parts hardened throughout; inserted tool steel blades.

Welding and Cutting Exposition at American Welding Society Convention to Be Largest Ever Held

The Welding and Cutting Exposition held under the auspices of the American Welding Society and in co-operation with the National Steel and Machine Tool Exposition in Detroit the week of September 19th, will be the largest exhibit of its kind ever held.

A special section of Convention Hall of over 10,000 square feet has been set aside for the welding exhibit. Consequently all of the exhibits will be grouped together and the thousands in attendance will have the opportunity to observe the latest and best equipment and developments in this line. The two previous exhibitions of the A. W. S. at Boston and at Buffalo occupied less than one-half the space that will be devoted to welding at the Detroit show.

U. W. Christians, Spencer, Iowa, Would Install Only According to Code

U. W. Christians, Spencer, Iowa, who has been in the warm air heating and sheet metal contracting business for a little over a year now, is finding the Standard Furnace Code of great assistance to him in his furnace work. In writing to us recently, Mr. Christians was kind enough to say that AMERICAN ARTISAN is giving him a great deal of help.

Random Notes and Sketches

By Sidney Arnold

"The essence of humor is sensibility; warm, tender fellow-feeling with all forms of existence."—Carlyle.

Rejuvenation Plus

"How did your husband come out of his gland operation?"

"Splendidly. He slid down the banister yesterday and yelled for his school books. How is your husband progressing?"

"He died this morning of infantile paralysis."

* * *

A True Scot

With a loud squeaking of hastily applied brakes, the taxi pulled into the curb and its occupant, Tom Pearson, clambered gingerly out.

He glanced at the taximeter and proffered the exact fare to the driver, a miserable looking kind of fellow.

"'Ere," said the latter, darkly, "what's this 'ere?"

Tom looked at him for a moment.

"Mon," he breathed, "yere a sportsman. I'll say it's tails."

* * *

M. O. Miller, Jr., Durand, Illinois, admits the charges made against him by James Charles Allan appearing on my page last week. But he thinks there should be some explanation made; that the other side of the story should also be told.

I know that James Charles Allan is going to say something nasty to me the next time he comes in, but in fairness to Mr. Miller I must give his side of the case.

Mr. Miller writes: "I am guilty of the charges made against me all right, but think it is only fair that readers of AMERICAN ARTISAN know the whyfore. Mr. Allan was with me on that famous trip and also the day before.

"Now, at 3 a. m. he got up with a tummy ache, but instead of going off by himself and suffering in silence, he began the day by giving us a sample of what he said was the hog call; well, maybe it was. Now, if there is anyone who can stand to be with James Charles Allan on

such an occasion, being kept awake the greater part of the night as I was, and then not fall asleep even in a boiler factory on the next night when your wife goes to a bridge party, I would enjoy having that person send me the address of his special agent. My brand won't keep me awake after such a trial."

* * *

Repaid—?

A man called on Charles Spindler of the F. Meyer & Brother Company, Peoria, Illinois. "You may not know my name," he said, "but 10 years ago, when I was a poor boy in this town, you gave me \$25 and said: 'Go ahead, boy, and when you've made good return to your home. I can wait for the \$25.'"

"Yes?" said Charlie, with interest.

"Well, here I am. I suppose you don't happen to have another \$25 on you?"

* * *

A Modern Eve

"How dare you speak to me?" said the girl indignantly. "I don't know you from Adam."

"Well," returned Art Glessner, of Hart & Cooley Company, unconcernedly surveying the young miss in a modern bathing costume, "I would hardly know you from Eve."

* * *

Mrs. Ros Strong has an old Irish woman who comes in occasionally to help out and who is always full of woe. As usual, she came to work last Monday with a long face.

"What's the matter now, Maggie?" Mrs. Strong asked sympathetically. "Why are you crying now?"

"Oh, dear, oh, dear!" sobbed Mrs. Murphy. "Me poor Pat is a-failin'. Why, the dear man bate me up this mornin' an' he hardly blacked me eyes at all, at all."

Wrong Shop

"I want a bottle of iodine," said Art Lamneck, stepping into a drug store in Columbus, Ohio, recently.

"Sorry, but this is a drug store. Can't I interest you in an alarm clock, some nice leather goods, a few radio parts, or a toasted cheese sandwich?"

* * *

The Spirit of Progress

A young chap from the country came to town looking for work. He spied a sign in the window of the Eagles' Laundry, "Man Wanted."

"Say, mister," he asked bashfully, "could you give me a job? I don't know nothing about washing eagles, but I'm willing to learn."

* * *

One Often Follows the Other

"See here," said the verra, verra, angry Jack Stowell to the typist, "what do you mean by inserting the derisive expression 'Applesauce' in parenthesis in my speech?"

"'Applesauce'? Great Scott, man, I wrote 'Applause.'"

* * *

Traffic Cop: "What's your name?"

Truck Driver: "It's on the side of me wagon."

Cop (trying to read name): "It's obliterated."

Driver: "Yer a liar, it's O'Brien."

* * *

Had Your Iron Today?

Grocer: Here's your flypaper. Anything else today?

Rastus: Yas-suh, I wants 'bout six raisins.

Grocer: Do you mean six pounds?

Rastus: Naw, suh, about six, jes' enough fo' decoys.

* * *

Thoroughly in Earnest

"Did you—utterly without warning—assault this poor wholesale salesman and throw him into the street," demanded the district attorney.

"Yes," replied the retailer. "Three times."

The Editor's Conning Tower

35 Years in One Location, But Without Profit

SOME warm air furnace installers are, indeed, peculiar people, and their ignorance and conceit does nothing to improve them.

Just the other day I stepped into the shop of a warm air furnace installer, located in the midst of what appeared to be a very prosperous residential section of a Chicago suburb.

The stock in this shop was piled high and disorderly. A thick coating of dust covered it all, as though the elements were trying to hide in the best way they could the hideous mess. A few furnaces of a well known make stood on the floor of the shop where they had been left when unloaded.

Now this furnace installer proudly boasts the fact that he has been in his present location for 35 years. But I am sorry to say that the building and his business is no larger today than it was 35 years ago. In fact, is a constant source of marvel to me that he is still in business.

Engaging in conversation with this furnace installer, I learned that he does no advertising at all, he belongs to no warm air heating or sheet metal associations. Furthermore he considers \$150 for a complete furnace installation a very excellent price. In a word, he is thoroughly satisfied to let things go on as they have for the past 35 years.

His attitude toward advertising is this, everyone in his community knows where he is and when they want any work they come to him.

There are a lot of men of this type in the warm air heating business. And they constitute the real menace to that business. They are the men who are making it hard sledding for the real, honest-to-goodness, hard-working fellow, who is really trying to get somewhere in the business. They take jobs at prices that are so ridiculously low, that it is hard to see how they remain in business.

The minds of these men closed to progress a long time ago. They are so far behind the times that they do not realize that new people are moving into a community every day, and that in order to reach these people one must tell his story through some kind of an advertising medium. He cannot depend upon word of mouth advertising entirely.

How much better it would be for all concerned if all of this type of furnace installer could be brought to a state of efficiency where he would see that he should pay himself a salary for running the business; that he must charge the business with the rent he does not pay because he owns his own buildings—all this in order to arrive at an equitable overhead and profit charge, which show him his mistake and thus prevent him from put-

ting a good furnace job in for as small an amount as \$150.

A warm air furnace installer in business in the same location for 35 years and with no more money and no larger place than when he started out is more than a curiosity, he is a marvel but he does not know it and neither does anyone else. What can be done with a man like that? Because of his peculiar position he makes enough to remain in business, but takes work at so low a price that he throws a monkey wrench into the machinery for all the rest.

Salesmen Have Responsibility to Industry

IN OUR travels among sheet metal and warm air furnace men we learn considerable about the practices of some salesmen, both of sheet metal products and warm air furnaces, that do not do these men or their calling credit.

A short time ago a reputable warm air furnace installer called at our office and related practices of salesmen calling on him that seemed incredible, and yet this furnace installer had no reason to falsify his statements.

It would appear that warm air furnace salesmen who indulge in such practices as those related to us (no good would accrue from retailing them) have no sense of justice and less consideration for the welfare of the men whom they call upon. In a word, their ethical sense has never been cultivated, or if it ever was developed, it has long since been snowed under and lost sight of.

No warm air furnace or sheet metal products salesman can have the proper regard for the welfare of the industry which supports him who does things in that industry that mitigate against building up good will for the industry. One or two discreditable acts can easily tear down in a short time what it has taken years of constructive effort to build up. There is still another angle to the thing. The salesman comes into a town, does his deeds and moves on. The installer or sheet metal man is permanent in that town and he is looked to for redress by an irate public when things go wrong.

In fairness to the industry from which they make their livelihood, salesmen should take care not to commit acts that are going to redound to the discredit of the industry. It is just as much their responsibility to build for good will as it is the responsibility of the manufacturer who hires them and the furnace or sheet metal man whom they call upon.

Warm air furnace and sheet metal products salesmen have an excellent opportunity to do a lot of good missionary work, and they should not overlook this chance to "cast their bread upon the waters."

This Is the Last Call for Fan-Furnace Convention, Hotel Sherman, Chicago, August 30 and 31

Everyone in Furnace Industry Invited to Attend

EVERYTHING points to a very successful meeting and all those who are going to attend will leave with a fund of valuable information that will be helpful in building better business this fall and in the future.

One of the interesting angles to this convention is that it will be of a strictly practical nature. It will be pointed out to every furnace man present that he can profit by the experience of others. In other words, his experimenting has already been done for him and the extent of this in practical results will be shown in a very complete and comprehensive way. It is planned to give the furnace industry a good idea of the magnitude of the fan furnace field that is open to the furnace man who will take advantage of the opportunities before him.

In extending a very cordial invitation to everyone in the furnace industry to be present, the good of the industry is being given careful thought by those back of the convention. Because of the fact that the fan furnace job can never be one of price, the valuable discussion that will take place will naturally be of a high order and will do much to put the industry on a much higher plane.

Today there is an intense national interest in the future of the furnace business and it can be safely said that even though furnace fans are in their infancy today, nevertheless the progress that has been made in very recent years has been nothing short of a revelation. Manufacturers, jobbers, and dealers have awakened to the fact that there is a tremendous field for fan furnace systems, not only in homes

but apartment buildings, churches, schools, gymnasiums, and similar buildings, together with the industrial field. A great many of these buildings in the past have been heated by other forms of heating and have been neglected by the furnace industry.

Today this is changed. More and more jobs are coming to the furnace industry for the simple reason that alert furnace men are going after the business. They are impressing architects and builders with the fact that warm air heat is without question the finest kind of heat they can choose. These men have responded very quickly to the many advantages that have been pointed out to them in connection with fan furnace systems and have been quick to appreciate the sound logic of these arguments.

The two-day program that has been arranged by R. W. Menk and H. D. Walker of the Heating Systems Division of the Robinson Furnace Company, Chicago, has been laid out with the dual purpose of showing the Heat-O Line of furnace fans and boosters and to point out the splendid opportunity that awaits the industry as a whole to promote better warm air heating.

If you have not already made your reservation to attend this important meeting, do so now. It will be an investment that will pay very substantial dividends in the future. Every furnace dealer is welcome, so is every manufacturer, jobber, sales manager, and salesman, regardless of the type of furnace you sell. Send your reservation to R. W. Menk, Heating Systems Division, Robinson Furnace Company, 205 West Lake street, Chicago, who guarantees that you will never

regret your attendance at the Fan-Furnace Heating Convention in Chicago at the New Hotel Sherman, August 30th and 31st.

Annual Manufacturing Production Increased 65 Per Cent from 1914 to 1925

The total manufacturing production in the United States has increased about 65 per cent in volume from 1914 to 1925, or at a rate about $3\frac{1}{2}$ times as fast as the population, which has increased less than 18 per cent during the same period, according to a study just completed by the National Industrial Conference Board, 247 Park Avenue, New York.

The production of our manufacturing industries per wage earner employed in 1925 was 35 per cent, or more than a third, greater than in 1914, volume of production having far outstripped the increase in the number of workers as well as population growth.

Welding Conference to Be Held at University of Minnesota October 20 to 22

A conference embracing all phases of the welding industry is to be held at the University of Minnesota October 20th, 21st, 22nd, 1927, according to plans worked out by Professor S. C. Shipley, acting head of the Mechanical Engineering Department of the College of Engineering. This is the first conference of this nature held by the University of Minnesota, but according to the considerable interest shown by the users of welding equipment in the territory.

A large part is to be given to papers read by practical users as well as round table discussions led by experts in their respective lines.

If you want to make more money than you have ever made before Send for this book!

THIS new book, "Speeding Up Sheet Metal Profits," tells you how to make more money in the sheet metal business. It is the composite result of methods used by hundreds of sheet metal contractors. Send for your copy TODAY.



This advertisement appears on the page facing the inside back cover of The Saturday Evening Post of May 7. It is part of our consistent national advertising program, which is increasing profits for Toncan dealers.



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Relation of Basement Pipe Area to Room Heat Losses*

Standard Code Basement Pipe Sizes and Explanatory Notes

By L. W. MILLIS

IF air is warmed to certain temperatures, it will rise at definite rates of velocity, depending upon the pitch of the pipe it flows through, and is modified greatly by the length of the pipe and the number of elbows in the pipe.

The assumption of the Standard Code is that the pipe will have one inch of pitch per foot, not over one angle and one elbow in each pipe, and that the pipe is not over 12 feet long. It is also assumed that the temperature of the air at register will be about 175 degrees.

This last assumption is for working purposes only as the air at bonnet collars varies greatly, and will, therefore, vary at the corresponding registers. Under those conditions, a first floor basement run will deliver 111 B. t. u. for each square inch of pipe area. The room loss in Data Sheet No. 4 is based on units of 1000. Therefore, $1000 \div 111$ equals 9 sq. in. of 1st fl. pipe area to carry 1000 B.t.u.

The velocity in a second story pipe is greater than in a first story pipe. A second story pipe will deliver 165 B. t. u. per square inch. Therefore, six square inches will deliver 1000 B. t. u. A third story pipe will deliver 200 B. t. u. per square inch and five square inches will deliver 1000 B. t. u. In Sheet No. 4 we calculated the loss of a room as follows:

B. t. u. Loss		Standard Code Loss	
180 square feet net wall x 16 equals	2880	180 divided by 60 = 3 or	3000 B. t. u.
84 square feet glass x 83 equals	2972	84 divided by 12 = 7 or	7000 B. t. u.
1600 cubic feet x 1.27 equals	2032	1600 divided by 800 = 2 or	2000 B. t. u.
Total loss, each method.....		11884	or 12 12000 B. t. u.

*These are "Data Sheets" Nos. 5 and 6, by L. W. Millis, of the Warm Air Study Club, The Security Stove & Manufacturing Company, Kansas City, Missouri, and comprises the fifth and sixth of a series of articles designed to interest the findings of the University of Illinois Research Staff on warm air heating in the language of the workmen. These articles will be published later in pamphlet form.

As one thousand B. t. u. requires nine square inches of first floor basement pipe area, we only need to multiply as many thousand B. t. u. as the room requires by nine to find the area of basement pipe required to warm the room. Therefore, 12 (thousand) multiplied by nine tells us that 108 square inches of pipe area is required (practically a 12 inch pipe) for the first floor.

For a second story basement pipe, we multiply 12 x 6 which equals 72 (practically a 10-inch

Heating and Ventilating Engineers, National Association of Sheet Metal Contractors, Western Warm Air Furnace and Supply Association, and the Midland Club. Anyone desiring a copy of the Code will receive one, free of charge, by writing Mr. Allan W. Williams, Secretary of the National Warm Air Heating and Ventilating Association, Columbus, Ohio, or American Artisan.

The portion dealing with basement pipe sizes can be stated very briefly as follows:

Net sq. ft. of wall	Sq. ft. plus glass	plus cu. ft.	} x 9 equals area of first floor basement pipe
60	12	800	
Net sq. ft. of wall	Sq. ft. plus glass	plus cu. ft.	} x 6 equals area of second floor basement pipe
60	12	800	
Net sq. ft. of wall	Sq. ft. plus glass	plus cu. ft.	} x 5 equals area of third floor basement pipe
60	12	800	

pipe).

For a third story basement pipe we multiply 12 x 5, which equals 60 (practically a 9-inch pipe).

Data Sheet No. 6—Standard Code Basement Pipe Sizes.

With the explanations given in preceding Data Sheets, it is easy to understand and remember the factors used to determine the size of basement pipes as specified in the Standard Code approved by the National Warm Air Heating and Ventilating Association, The American Society of

I urge you to study the Code carefully and to follow the provisions laid down in explanatory notes, four to eleven, printed in the Code.

Explanatory Notes.

Note 4—In obtaining glass surface use full casement opening. An outside door is figured as glass.

Note 5—To obtain net outside wall, multiply height by width and deduct the glass in all windows and outside doors. For all rooms with attic spaces immedi-



The "putting-on" tool

Do you remember the days of the sky-hook, the left-handed monkey wrench and the putting-on tool? They were grand old shop gags for green hands.

But there is a putting-on tool. It is the Oxxweld welding blowpipe. It puts on metal where metal is needed. A shaft worn thin can be built up to the proper size. Shear tables and crusher jaws that are ready for the scrap pile can be put back to work by putting on a little metal. And undersized

parts can be reclaimed by this modern method.

Nor is that the whole story, for, with welding rods of Haynes Stellite or special alloy steels, the new "put-on" surface can be made better and actually wears longer than the original.

Do you know where the putting-on tool can help you in your business? It pays to be up-to-date.

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ately above full ceiling areas shall be taken into account, using Table A.

Note 6—For rooms having unusual exposure, ordinarily north, northeast and northwest, add 15% to pipe area. For east and west exposure, add 10%.

Note 7—Use no warm air pipe less than 8 inches in diameter. If a basement warm air pipe figures greater area than any standard commercial size, then the nearest commercial size shall be used, provided, however, that the total pipe area shall in no case be less than the total requirements according to Sec. 1, 2 and 3.

Note 8—It is understood in using the above values for determining basement warm air pipe areas, that these pipes should be run comparatively straight and that they should not be over 10 to 12 feet in length. Sharp turns and long pipes should have extra capacity. (See data sheet No. 10.)

Note 9—The value of 800 (used in cubic contents) is for an estimated air change of one room volume per hour. If it is desired to provide for $1\frac{1}{2}$ room volume use the figure 600. If for 2 room volumes use the figure 400.

New Warm Air Heating Consumer Booklet Now Ready for Distribution

The National Warm Air Heating and Ventilating Association has recently published a new consumer booklet for distribution by warm air furnace men.

This new booklet presents the complete story of the new era in warm air heating in a most interesting and attractive manner. In its composition the author has analyzed atmospheric conditions, and the detrimental effects upon the human organism of dry, "stuffy" air.

The conclusions arrived at are not merely guess work or the result of snap judgment reasoning, designed to push warm air heating ahead of other systems. They are the result of concentrated thought, whose whole objective is to set forth in a clear, concise manner the truth of the warm air heating system.

These booklets can be purchased from the National Warm Air Heating and Ventilating headquarters, 174 East Long Avenue, Columbus, Ohio, at cost prices which are based on the actual cost to the association of printing. The booklet is attractively illustrated and should go a long way toward giving the consumer a wider appreciation of the true merits of warm air heating than he has ever had before. The accompanying illustration is a reproduction of the cover, whose actual size is 6x9 inches.

J. G. Elston Buys Cash Hardware, Neillsville, Wisconsin.

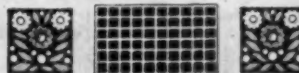
Mr. J. G. Elston, 2023 Main street, La Crosse, Wisconsin, has severed his connection with R. J. Schwab & Sons Company, Milwaukee, Wisconsin.

Mr. Elston has purchased the business of the Cash Hardware Company, Neillsville, Wisconsin, and will take possession on or about September 1.

The good wishes of the trade attend Mr. Elston.



Health and Comfort with WARM AIR



"This Booklet Cover Depicts a Day in Spring. The Air Is Warm, Moist, Circulating. Abundant Vitality and Health Ride Upon the Energizing Breezes. Thousands of the Finest Homes Now Enjoy—In Spite of Winter's Blasts—Warm, Moist, Circulating. These Homes Are Heated with Warm Air"



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HAND-DIPPED CONDUCTOR PIPE

Recent Gain in Steel Demand Drops— Industry Awaits September for Improvement

More Inquiries Noted for Pig Iron— Demand for Nonferrous Metals Quiet

FINISHED steel demand was thought to have passed its mid-summer low early in July, but the contraction in the past week has been so sharp that practically all of the improvement since then has been surrendered.

Small consumers of steel are fair buyers for the season, but the tonnage outlets, excepting that for structural steel, appear to have dried up. Automotive specifications are a quarter lower than expected. Tubular goods are held in check by the unfavorable oil country situation. The railroads continue out of the equipment market; they are negotiating for their 1928 rail requirements, but this does not put immediate tonnage on the mills.

This condition is not lending strength to the steel price structure. Pressure for concessions is tempered by the absence of business that would command attention, but the weakness in some products is being accentuated. Steelmaking operations generally have dropped to 65 to 68 per cent, and the industry now awaits mid-September for an upturn.

Pig Iron

The pig iron market at Pittsburgh, while a little more active in inquiries, is showing no additional strength. Some sellers believe current quotations are rock bottom and due for an advance within the next week or ten days.

Most sales of No. 2 plain are made at \$17.50, with \$18 applying on carloads or less.

Basic iron demand is at a standstill, with the price \$17.50, valley, nominal. It is believed \$17.25 or even \$17 might be done on good tonnage. No new inquiries are out for low phosphorus iron, with \$29.66, delivered, the regular quota-

tion on copper free material. Shipments on contracts continue slow.

At Chicago sales of northern pig iron are maintained at a steady rate, with shipments considerably in excess of July deliveries.

Present buying is partly for delayed third quarter requirements, while a portion is for the remainder of the year. Seventy-five hundred to 8,000 tons have just been sold in the Chicago district for delivery soon by boat in three cargoes from Buffalo.

Some of the tonnage, reported sold to Milwaukee melters, is understood to have been closed at \$19, or 50 cents under the market.

The volume of business transacted in the past week by pig iron producers in the Birmingham district reflects no improvement in market conditions. Prices are held at \$17.25, base, Birmingham.

Tin

Light buying by users in this country has given the market a setback from the rapid recovery that set in late in July and ran well into August. The largest part of the break occurred on Monday and affected futures as well as spot. It looks as if domestic supplies and deliveries would be large this month and shipments from the Far East light.

Zinc

Business has been light, but the price of prime western has given somewhat better account of itself than the prices of other metals. In fact, as for some months past, this metal continues to be one of the most stable.

The price has been running around 6.37½ cents East St. Louis, with little distinction between prompt and October, but with a tendency to be firmer on the latter

than for prompt. Not much interest is shown beyond October, with most of the buying for that month still to be done.

Lead

Some prompt business was done about a week ago and since then there has not been much buying. However, shipments have increased. The open market has been slightly easy on account of lower prices abroad, but the largest producers have held their prices.

Copper

The market has been idle and so here and there a few lots of copper which holders desired to move had to be priced at concessions, and even then some of them went begging.

Large producers generally held for 13¼ cents, Connecticut, or higher, and up to 13½ cents, mid-west. The indications are that August shipments will be a little larger than July shipments, with slightly further curtailed crude output of last month tending to diminish stocks.

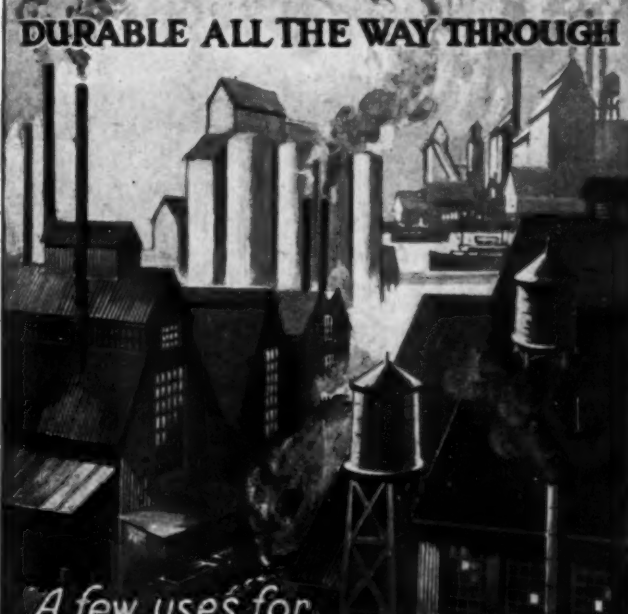
Solder

Chicago warehouse prices on solder are as follows: Warranted 50-50; \$39.75; Commercial 45-55, \$36.75; plumbers', \$33.75, all per 100 pounds.

Old Metals

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$17.00 to \$17.50; old iron axles, \$20.00 to \$20.50; steel springs, \$15.00 to \$15.50; No. 1 wrought iron, \$11.25 to \$11.75; No. 1 cast, \$12.75 to \$13.25, all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 9 cents; zinc, 3½ cents; cast aluminum, 13¾ cents.

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Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

PIG IRON

Chicago Fdy., No. 2.....	\$19 50
Southern Fdy. No. 2.....	23 26
Lake Superior Charcoal.....	27 04
Malleable	19 50

FIRST QUALITY BRIGHT TIN PLATES

IC 20x28 112 sheets.....	\$25 10
IX 20x28.....	29 60
IXX 20x28 56 sheets.....	16 20
IXXX 20x28.....	17 55
IXXXX 20x28.....	18 95

TERNE PLATES

IC 30x28, 40-lb. 112 sheets	\$26 00
IX 20x28, 40-lb. 112 sheets	28 50
IC 20x28, 25-lb. 112 sheets	31 75
IX 20x28, 25-lb. 112 sheets	24 35
IC 20x28, 20-lb. 112 sheets	20 00
IX 20x28, 20-lb. 112 sheets	22 50
IC 20x28, 15-lb. 112 sheets	18 50

"ARMCO" INGOT IRON PLATES

No. 8 ga. up to and including	
1/2 in.—100 lbs.....	\$4 55

COKE PLATES

Cokes, 80 lbs., base, 20x28.	\$13 60
Cokes, 90 lbs., base, 20x28.	13 80
Cokes, 100 lbs., base, 20x28.	14 00
Cokes, 107 lbs., base, IC	
20x28.....	14 30
Cokes, 135 lbs., base IX	
20x28.....	16 40
Cokes, 155 lbs., base, 56	
sheets.....	9 20
Cokes 175 lbs., base, 56	
sheets.....	10 05
Cokes, 195 lbs., base, 56	
sheets.....	10 90

BLUE ANNEALED SHEETS

Base 10 ga.....per 100 lbs.	\$3 50
"Armco" 10 ga.....per 100 lbs.	4 00

ONE PASS COIL ROLLED BLACK

No. 18-20.....per 100 lbs.	\$3 75
No. 22.....per 100 lbs.	3 90
No. 24.....per 100 lbs.	3 95
No. 26.....per 100 lbs.	4 05
No. 27.....per 100 lbs.	4 10
No. 28.....per 100 lbs.	4 20
No. 29.....per 100 lbs.	4 35
No. 30.....per 100 lbs.	4 45

"ARMCO" GALVANIZED

"Armco" 24.....per 100 lbs.	\$6 15
-----------------------------	--------

GALVANIZED

No. 16.....per 100 lbs.	\$4 30
No. 18.....per 100 lbs.	4 45
No. 20.....per 100 lbs.	4 60
No. 22.....per 100 lbs.	4 65
No. 24.....per 100 lbs.	4 80
No. 26.....per 100 lbs.	5 05
No. 27.....per 100 lbs.	5 15
No. 28.....per 100 lbs.	5 30
No. 30.....per 100 lbs.	5 70

BAR SOLDER

Warranted	
50-50.....per 100 lbs.	\$29 75
Commercial	
45-55.....per 100 lbs.	36 75
Plumbers.....per 100 lbs.	33 75

ZINC

In Slabs.....	\$ 8 50
---------------	---------

SHEET ZINC

Cash Lots (600 lbs.).....	\$12 00
Sheet Lots.....	13 00

BRASS

Sheets, Chicago base.....	17% c
Mill Base.....	18c
Tubing, brazed base.....	25% c
Wire, base.....	18% c
Rods, base.....	15% c

COPPER

Sheets, Chicago base.....	22c
Mill Base.....	21c
Tubing, seamless base.....	25c
Wire, No. 8, B & S Ga.....	18% c
Wire, No. 10, B & S Ga.....	18% c
Wire, No. 11, B & S Ga.....	19c
Wire, No. 8, B & S Ga. and heavier.....	17% c

LEAD

American Pig.....	\$7 40
Bar.....	8 40

TIN

Big Tin.....per 100 lbs.	\$71 00
Bar Tin.....per 100 lbs.	72 00

HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

ASBESTOS

Paper up to 1/16.....	6c per lb.
Roll board.....	6 1/2 c per lb.
Mill board 3/32 to 1/4.....	6c per lb.
Corrugated Paper (250 sq. ft. to roll).....	\$6 00 per roll

BRUSHES

Hot Air Pipe Cleaning Bristle, with handle, each	\$0 35
Flue Cleaning Steel only, each.....	1 25

BURRS

Copper Burrs only.....	40-5%
------------------------	-------

CEMENT, FURNACE

American Seal, 5-lb. cans, net	\$ 40
American Seal, 10-lb. cans, net	80
American Seal, 25-lb. cans, net	2 07
Pecora.....per 100 lbs.	7 51

CHIMNEY TOPS

Adams' Revolving		Prize Doz.
4 in.....	21 lbs.	\$11 00
6 in.....	24 lbs.	11 50
7 in.....	30 lbs.	13 50
8 in.....	33 lbs.	15 00
9 in.....	51 lbs.	16 50
10 in.....	56 lbs.	18 00
12 in.....	66 lbs.	22 00
14 in.....	110 lbs.	36 00

CLINKER TONGS

Front Rank, each.....	\$0 75
Per doz.....	8 40

CLIPS

Damper	
Acme, with all tall pieces, per doz.....	\$1 25
Non Rivet tall pieces, per doz.....	25

COPPERS—Soldering

Pointed Roofing	
3 lb. and heavier.....per lb.	40c
2 1/2 lb.per lb.	45c
2 lb.per lb.	48c
1 1/2 lb.per lb.	55c
1 lb.per lb.	60c

CORNICE BRAKES

Chicago Steel Bending	
Nos. 1 to 6B.....	Net

CUT-OFFS

Gal. plain, round or cor. rd.	
26 gauge.....	20%
28 gauge.....	35%

DAMPERS

"Yankee" Hot Air	
7 inch, each 20c, doz.....	\$1 75
8 inch, each 25c, doz.....	2 40
9 inch, each 30c, doz.....	2 75
10 inch, each 32c, doz.....	3 00

Smoke Pipe

7 inch, each.....	\$0 35
8 inch, each.....	40
9 inch, each.....	50
10 inch, each.....	60
12 inch, each.....	90

Reversible Check

8 inch, each.....	\$ 56
9 inch, each.....	70

Diamond Smoke Pipe

7 inch, doz.....	\$ 5 00
8 inch, doz.....	8 00
9 inch, doz.....	12 00
10 inch, doz.....	15 00

Adams' Sheet Metal

7 inch, doz.....	\$ 1 60
8 inch, doz.....	2 20
9 inch, doz.....	2 60
10 inch, doz.....	2 80

DIGGERS

Post Hole	
Iwan's Split Handle (Eureka)	
4-ft. Handle...per doz.	\$14 00
7-ft. Handle...per doz.	36 00
Iwan's Hercules pattern, per doz.....	14 90

EAVES TROUGH

Galv. Crimpedge, crated 75 & 5%	
Zinc, "Barnes".....	60%

ELBOWS

Conductor Pipe	
Galv. plain or corrugated, round flat Crimp.	
28 Gauge.....	60%
26 Gauge.....	45%
24 Gauge.....	15%
Galv. & Terne Steel	
Plain Rd. and Rd. Corr.:	
28 Ga.....	60%
26 Ga.....	45%
24 Ga.....	15%

Square Corrugated

No. 23 Gauge.....	50%
26 Gauge.....	35%

Fortico Elbows

Standard Gauge Conductor Pipe, plain or corrugated.	
Not nested.....	70 & 5%
Nested solid.....	70 & 5%

Sq. Corr., A. & B. & Octagon:

28 Ga.....	50%
26 Ga.....	35%

Portico

1", 1 1/4", 1 1/2".....	45%
-------------------------	-----

Copper

16 oz., all designs.....	45%
--------------------------	-----

Zinc—

All styles.....	60%
-----------------	-----

ELBOWS—Stove Pipe

1-piece Corrugated. Uniform Blue "Milcor" No. 28 Gauge. Doz.	
5-inch.....	\$1 25
6-inch.....	1 35
7-inch.....	1 75

Special Corrugated

6-inch.....	\$1 00
7-inch.....	1 60

Adjustable—Uniform Blue

"Milcor" No. 28 Gauge. Uniform Blue.	
5-inch.....	\$1 75
6-inch.....	1 85
7-inch.....	2 15

WOOD FACES—50% off list.

FENCE	
726-6-12 1/2% (100 rods).....	\$28 68
1948-6-14 1/2% (100 rods).....	43 62

FILES AND RASPS

Heller's (American).....	50-10%
American.....	50-10%
Arcade.....	50%
Black Diamond.....	50%
Eagle.....	50%
Great Western.....	50%
Kearney & Foot.....	50%
McClellan.....	50%
Nicholson.....	50%
Simonds.....	50%

FIRE POTS

Clayton & Lambert's	
East of west boundary line of Province of Manitoba, Canada, No. Dakota, So. Dakota, Nebraska, Kansas, Oklahoma, Arizona, San Angelo and Laredo, Texas.....	52%
West of above boundary.....	48%

Geo. W. Diener Mfg. Co. Ea.

No. 02 Gasolene Torch, 1 qt.....	\$ 5 56
No. 0250, Kerosene, or Gasolene Torch, 1 qt.....	7 50
No. 10 Tinner's Furn. Square tank, 1 gal.....	12 60
No. 15 Tinner's Furn. Round tank, 1 gal.....	12 00
No. 21 Gas Soldering Furnaces.....	3 60
No. 110 Automatic Gas Soldering Furnace.....	10 50

Double Blast Mfg. Co.

Gasolene, Nos. 25 and 36.....	60%
-------------------------------	-----

Quick Meal Stove Co.

Vesuvius, F. O. B. St. Louis 30% (Extra Disc't. for large quantities)	
---	--

GALVANIZED WARE

Pails (Galv. after made), 10-qt.....	\$2 12
Tubs (Galv. after made).	
No. 1.....	6 00
No. 2.....	6 85

GLASS

Single Strength, A, 25-in. brackets.....	87%
Single Strength, A, 34 to 40-in. bracket.....	86%
Single Strength, A, all other brackets.....	86%
Double Strength, A, all sizes.....	86%

HANGERS

Conductor Pipe	
Milcor Perfection Wire.....	26%
Eaves Trough	
Milcor Eclipse Wire.....	15%
Milcor Triplex Wire.....	10%
Milcor Milwaukee Extension 10%	
Milcor Steel (galv. after forming) List.....	plus 12 1/2%
Milcor Selflock E. T. Wire.	
List.....	plus 50%

HOOKS

Box	
V. & B. No. 1, each.....	\$0 26

Conductor

"Direct Drive" Wrought Iron for wood or brick.....	15%
--	-----

Hay

V. & B. No. 1, each.....	\$0 26
--------------------------	--------

HUMIDIFIERS

"Front-Range" Automatic	
In single lots.....	50c
In lots of 10 or more.....	50-5%
In lots of 25 or more.....	50-10c
Vapor pans, etc., each.....	50%

LIFTERS

Stove Cover	
Coppered.....per gro.	\$6 00
Alaska.....per gro.	4 75

MALLETS

Tinners	
Hickory.....per doz.	\$2 25

MITRES

Galvanized steel mitres,	
28 Ga.....	70
26 Ga.....	60-20

NAILS

Cut Steel.....	\$4 25
Cut Iron.....	4 35

Wire

Common.....	2 95
Cement Coated.....	2 95

(Continued on Page 170)



Foot Squaring Shears—Silver City Pattern,
made in all practical sizes, capacity
No. 18 gauge iron and lighter.

WORTH WHILE TOOLS AND MACHINES

FOR over a century the PEXTO organization has striven to give the mechanic the most value for his money.

We receive many testimonials from users, telling us of the long, satisfactory service given by PEXTO Machines and Tools.

Write for Catalog No. 25A



Machines and Tools for the Sheet Metal Worker - Production Machinery for the Manufacturer of Sheet Metal Products - Power Presses - Dies - Power Shearing Machines.

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SOUTHINGTON, CONN., U. S. A.

MAKE YOUR OWN ELBOWS—

Any Size in Two Minutes
with this Machine.

JUST take your straight pipe—fasten the form or jig to it and in two minutes you have your 3 or 4 piece adjustable elbow all ready for use and any size you want.

PURNELL ELBOW EDGING and CUTTING MACHINE

It is simple, sound and constructed of the very best materials—both installers and manufacturers are using it. No more large stock for the installer. Enables you to make adjustable elbows any size for each job at once when you need them.

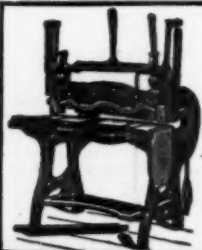
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Chicago Elbow Machine Co.

MAIN OFFICE: 326 N. Boulevard,
Oak Park, Ill.



Range
of
capacity
7 in. to
36 in.
Elbows
of
No. 24
gauge
and
lighter



TREADLE SHEAR

This TREADLE GAP SHEAR is made in all standard sizes for No. 14 and lighter gauge sheets. With it, sheets can be squared, trimmed or slit.

We make a complete line of shears, punches and bending rolls, all sizes for hand or belt drive. Write for Catalog "S."

BERTSCH & COMPANY Cambridge City, Ind.

IF you are in need of any tools or machines and you don't see them advertised or listed in the BUYERS' DIRECTORY write to the NOTES AND QUERIES DEPT. of American Artisan—we can tell you where to obtain any Sheet Metal Working Tools and Machines made.

Whitney Lever Punches

Widest known—Most universally used



Skylight Punch

NEW SKYLIGHT CLOSE CORNER FLANGE PUNCH

Every Sheet Metal Worker Needs One.

Weights Only 10 Lbs.

1-2 Inch Opening Above Die Top.



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QUICKEST CHANGED
FREQUENTLY PAY FOR THEMSELVES
ON FIRST JOB

Over 40,000 In Use

MADE IN 8 SIZES AND TYPES



Channel Iron Punch

OTHERS FOLLOWING



No. 3 Punch

ASK YOUR JOBBER

OR

Write us, for circulars and prices.

**W. A. Whitney
Mfg. Co.**

715 Park Ave.,
ROCKFORD, ILL.



No. 4 Tinner's Punch



No. 8 Punch

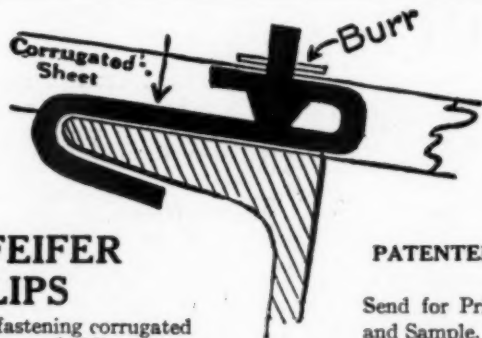
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NETTING, POULTRY	
Galvanized before weaving	57½-5%
Galvanized after weaving	52½-5%
PASTE	
Asbestos Dry Paste:	
200-lb. barrel	\$16 00
100-lb. barrel	8 75
35-lb. pail	3 50
10-lb. bag	1 10
5-lb. bag	60
2½-lb. cartons	35
PIPE	
Conductor	
Cor. Rd., Plain Rd. or Sq.	
Galvanized	
Crated and nested (all gauges)	75-2½%
Crated and not nested (all gauges)	70-15%
Furnace Pipe	
Double Wall Pipe and Fittings	50%
Single Wall Pipe, Round	50%
Galvanized Pipe	50%
Galvanized and Tin Fittings	50%
Lead	
Per 100 lbs.	\$12 50
Stove Pipe	
"Milcor" "Titelock" Uniform Blue Stove	
28 gauge, 5 inch U. C. nested	11 50
28 gauge, 6 inch U. C. nested	12 25
28 gauge, 7 inch U. C. nested	14 25
30 gauge, 5 inch U. C. nested	10 50
30 gauge, 6 inch U. C. nested	11 25
30 gauge, 7 inch U. C. nested	13 25
T-Joint Made up	
6-inch, 28 ga. per doz.	\$ 5 00
All Zinc	
No. 11, all styles	60%
POKERS, STOVE	
W'r't Steel, str't or bent, per doz.	\$0 75
Nickel Plated, coil handles, per doz.	1 10
POKERS, FURNACE	
Each	\$0 50
PULLEYS	
Furnace Tackle, per doz.	\$0 60
per gro.	6 00
Furnace Screw (enameled), per doz.	75
Ventilating Register	
Per gross	\$ 00
Small, per pair	30
Large, per pair	50
PUTTY	
Commercial Putty, 100-lb Kits	\$3 40
QUADRANTS	
Malleable Iron Damper	10%
REDUCERS—Oval Stove Pipe	
Per Doz.	
7-8, 1 doz. in carton	\$2.25
REGISTERS AND BORDERS—Baseboard, Floor and Wall.	
Cast Iron	20%
Steel and Semi-Steel	40%
Baseboard	40%
Wall	40%
Adjustable Ceiling Ventilators	40%
Register Faces—Cast and Steel	
Japanned, Bronzed and Plated, 4x6 to 14x14	40%
Large Register Faces—Cast, 14x14 to 38x42	60%
Large Register Faces—Steel, 14x14 to 38x42	65%
RIDGE ROLL	
Galv., Plain Ridge Roll, b'd'd	75-10-5%
Galv., Plain Ridge Roll, crated	75-10%
Globe Finials for Ridge Roll	50%
ROOFING	
Per Square	
Best grade, slate surf. prepared	\$ 2 30
Best talc surfaced	2 65
Medium talc surfaced	2 00
Light talc surfaced	1 20
Red Rosin Sheeting, per ton	57 00
SCREWS	
Sheet Metal	
7, ½x½, per gross	\$0 52
No. 10, ¾x16, per gross	68
No. 14, ¾x½, per gross	89
SHEARS, TINNERS' & MACHINISTS'	
Viking	\$22 00
Lennox Throatless	
No. 18	35%
Shear blades	10%
(f. o. b. Marshalltown, Iowa.)	
SHIELDS, REGISTER	
No. 1 "Gem" floor	\$12 00 doz
No. 2 "Gem" wall	6 00 doz
SHOES	
Galv. 28 Gauge, Plain or corrugated round flat crimp	60%
26 gauge round flat crimp	45%
24 gauge round flat crimp	15%
SNIPS, TINNERS'	
Clover Leaf	40 & 10%
National	40 & 10%
Star	50%
Milcor	Net
SQUARES	
Steel and Iron	Net
(Add for bluing, \$3 per doz. net.)	
Mitre	Net
Try	Net
Try and Bevel	Net
Try and Mitre	Net
Fox's	per doz. \$6 00
Winterbottom's	10%
STOPPERS, FLUE	
Common	per doz. \$1 10
Gem, No. 1	per doz. 1 10
Gem, flat, No. 3	per doz. 1 00
VENTILATORS	
Standard	30 to 40%
WIRE	
Plain annealed wire, No. 8, per 100 lbs.	\$3 05
Galvanized barb wire, per 100 lbs.	2 90
Wire Cloth—black painted, 12-mesh, per 100 sq. ft.	1 65
Cattle Wire—galvaniz'd catch weight spool, per 100 lbs.	3 65
Galvanized Hog Wire, 80 rod spool, per spool	3 18
Galvanized Plain Wire, No. 9, per 100 lbs.	3 40
Stove Pipe, per stone	1 10
WRINGERS	
No. 790, Guarantee	each \$5 10
No. 770, Bicycle	each 4 70
No. 670, Domestic	each 4 35
No. 110, Brighton	each 3 70
No. 750, Guarantee	each 5 10
No. 740, Bicycle	each 4 70
No. 23, Pioneer	each 3 40
No. 2, Superb	each 2 65



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For fastening corrugated roofing and siding.

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CHICAGO STEEL CORNICE BRAKES

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THE BEST BRAKE FOR ALL PURPOSES: Most Durable, Easiest Operated, Low in Price; Made in All Lengths and to Bend All Gauges of Metal. Over 23,000 in use.

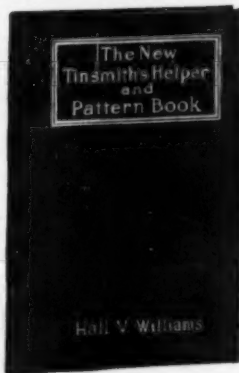
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247
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165
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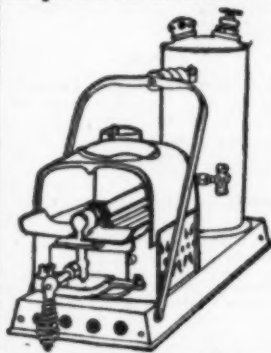
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Have you seen the improved models? The greatest line of Soldering Furnaces today on the market. They should be. There is more experience behind them. Forty-eight years of it! The Gems were popular before the majority of present day furnaces were heard of. It is the oldest, the recognized standard Soldering Furnace today.

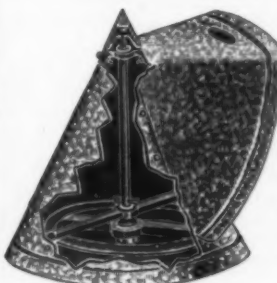
Look these models over. Each leads its class. Line them up and take your choice.

Do you want a Catalog?

BURGESS SOLDERING
FURNACE CO.

Improved No. 3 Gem with Pump Department A COLUMBUS, O.

The NEW IMPROVED "STANDARD" Rotable Ventilator



Patents pending

This favorite cone-shaped ventilator is now improved in several important points.

The weight of the ventilator body is now carried on a concave thrust bearing nested in the apex of the conical body. This bearing turns upon the pivot point of the stationary center spindle.

The bronze Guide Bushings are now made of non-corrosive bronze which minimizes friction and any tendency to screech when body is rotating.

There are other new features. Write today for new catalog and price list.

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Reed Air Filter Co.,
Louisville, Ky.

Bale Ties.
American Steel & Wire Co.,
Chicago, Ill.

Blowers.
Sturtevant Co., B. F., Boston, Mass.

Bolts—Stove.
The Kirk-Latty Co.,
Cleveland, Ohio
Lamson & Seasons Co.,
Cleveland, Ohio

Brakes—Bending.
Dreis & Krump Mfg. Co.,
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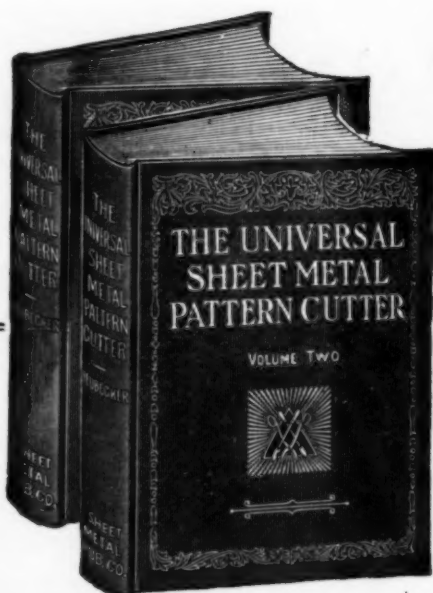
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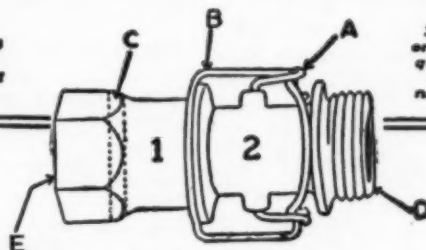
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Wanted—A first class sheet metal worker with small amount of capital to operate my shop for rent. Address H. W. Gazlay, Dayton, Texas. 6-3t.

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Would you like to own a fully equipped tin shop in a town about 2,500. Borden milk people are starting one of their largest plants here this year. Good chance for combination shop, as sewerage has just been completed. Also have residence if you want to buy. No better climate anywhere. Address H. D. Holman, Macon, Miss. 6-3t.

For Sale—Sheet metal shop in good growing north Idaho town, about 4,500 inhabitants, university, and good country to draw from. Business good. Lot 50x125, with building, stock and tools. Price \$4,500 cash. Good reasons for selling. Address J. A. Anderson, % Moscow Sheet Metal Works, Moscow, Idaho. 5-3t.

For Sale—Warm Air Heating and sheet metal shop. Extra good set of tools including brake and circular shears. Town 2,000 population. One other shop. Good competition. \$1,000 will handle. Write Ray M. Sharp, Bedford, Iowa. 6-3t.

For Sale—One-ton Dodge-Graham truck, canopy top, 1927 model, driven 3,500 miles, and in first-class condition. Also No. 2 Imperial welding outfit. Address B-90, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 6-3t.

BUSINESS CHANCES

For Sale—One 110-gallon tank and Bowser pump. Was used for linseed oil for about one and half years. Also hand elevator only used two years. Platform size 3x3. Also Stencil outfit from one to nine, including O and from A to Z. Make me an offer for any of the above. Address John P. Paulus, 311 Franklin St., Port Washington, Wisconsin. 7-3t.

For Sale—Plumbing, heating and sheet metal shop. All tools necessary for such work, including 8-foot Niagara brake, 30-inch squaring shears. Has always been a paying investment. Small town 25 miles from Danville, Illinois. Address B-99, AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 9-3t.

For Sale—Sheet metal shop. Stock and good tools including steel cornice brake, rollers, etc., or will sell tools separately. Write A. H. Kreueger, 3819 Thomas Avenue, Minneapolis, Minnesota. 7-3t.

For Sale—Exclusive plumbing, heating and sheet metal business in a town of 980 population located in a wealthy farming community near a city of 100,000. Illinois town. Poor health reason for selling. \$3,000 will swing deal. Address B-96, AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Ill. 8-3t.

For Sale—A No. 1 tinning, plumbing and heating shop in a 3,000 Minnesota growing town doing \$40,000 per year. No competition. Will sell building or rent it. Working six men. Good show room. A real buy. Address B-95, AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Ill. 8-3t.

For Sale—Hardware and general store, well established, doing good business, plenty of stove and pump work. Located on main street in center of town. Good chance for man and wife. Living quarters over store. Building can be bought or leased. Address P. O. Box 164, West Dennis, Mass. 8-3t.

Trade—Can anyone use 200 6x8 cans with covers? Second hand steam and wall radiator for used furnace or bar folder and other machines. Address Chas. Hahn, 5148 Irving Park Blvd., Chicago, Illinois. 5-3t.

SITUATION WANTED

Situation Wanted—By an A1 sheet metal worker and layout man; 30 years' experience; age 46; sober; steady; married and hard worker. Prefer shop work. Experience covers every phase of sheet metal and tin work. Please state wages and hours. Address B-86, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 6-3t.

Situation Wanted—By a first-class plumber; can also do heating and tin work; can estimate, read blue prints or run shop. Am steady and reliable and want just such a job. Illinois or Iowa preferred, but will go anywhere. State full particulars. Address B-85, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 5-3t.

Situation Wanted—By a first class plumber, tinner, steam and hot water heating and repair work. Have worked at the trades for over 30 years. Am married and want steady work the year round. Please state wages in first letter. Address B-91, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 7-3t.

Situation Wanted—A first-class, all-round sheet metal worker, well versed in all lines of sheet metal, wishes to secure employment as Foreman or Superintendent in a first-class, up-to-date sheet metal shop. State salary, conditions. B-97, AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 8-3t.

Situation Wanted—By young married man with five years' experience in a sheet metal shop. Can do most everything that comes in a sheet metal repair shop; can also do gutter or cornice work and can furnish best of reference. B-98, AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 8-3t.

SITUATION WANTED

Situation Wanted—Who wants to hire a man who knows the business from A to Z? I am an A-1 mechanic and layout man on all classes of sheet metal work, electric signs and auto work included. Steady, sober and reliable. Married. Thirty years' experience. Address TINNER, 6423 Northfield Avenue, Detroit, Michigan. 7-3t.

Situation Wanted—By sheet metal worker having 25 years' experience in shop, furnace, blow pipe, ventilation, square or round duct heating work. Know the Standard Code. Sober, steady worker. Please state wages and hours. Address L. C. Altken, Box 484, Muscatine, Iowa. 7-3t.

Situation Wanted—As tinner or tinner and plumber. I am also a good furnace man and auto radiator man. Job must be steady the year round. I am a married man. Can furnish best of references. State wages and particulars in first letter. Address Lee O. Bailey, Parkston, South Dakota. 6-3t.

Situation wanted by a capable plumber with Massachusetts license. Can do steam fitting, gutting, roofing and furnace work. Must be permanent position. Please state wages per hour and number of hours per week. Willing to go anywhere. Address L. D. B., 556 Hubbard Avenue, Pittsfield, Mass. 9-3t.

Situation Wanted—First-class tinner and furnace man. Can do inside and outside work. 25 years at the trade. Nothing but steady work the year around. Married. Can do anything that comes in any tin shop. Address W. J. Mack, St. Charles, Illinois. Route 2, R. F. D., Box 17. 9-3t.

Situation Wanted—By metal worker and furnace installer. Inside or outside. Middle west preferred. Age 32, married and sober. Must be steady. State wages and hours in first letter. Address W. E. Hull, 409 Military, Dodge City, Kansas. 6-3t.

Situation Wanted—Tinner and plumber with 25 years' experience in warm air and hot water furnaces, and hot water heating. Country town preferred. Address Frank Van, Granite Falls, Minnesota. 6-3t.

Situation Wanted—By first class sheet metal worker, warm air furnace installer. Plumbing and hot water heating. Address B-83, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 5-3t.

HELP WANTED

Wanted—A man who is a good tinner and plumber with capital to buy an interest in a tin and plumbing shop in the fastest growing city in the country in the largest oil fields ever brought in. Lots of plumbing and tin work here now. Have more business than I can see so need more capital to run the business. Address J. B. Loveless, Box 207, Seminole, Oklahoma. 9-3t.

Wanted at Once—Combination plumber and tinner; also a fair knowledge of steam and hot water work. Steady job the year around. Must be able to read blue prints, estimate and lay out own work. County seat town of 3,000. Address Box 15, Alton, Nebraska. 9-3t.

Wanted—Combination tinner and handy man. Married man preferred. Steady work. Wages \$20 to \$25 per week with two furnished rooms included. Address B-94, AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Ill. 8-3t.

Wanted—A neat and progressive sheet metal worker. Must be willing and able to do both in and outside work. Steady work to first-class mechanic. Do not apply unless you know the business. I want a man fully qualified. Address Harry T. Klugel, North Emporia, Va. 8-3t.

Wanted—At once. Combination plumber and tinner. A man that knows his business. Both in and outdoor work. Must be steady. This is a year around job for right man. No others need apply. Married man preferred. This is a small country town in Wisconsin. Address B-84, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 8-3t.

HELP WANTED

Salesman Wanted—High grade man for the state of Wisconsin to sell established quality line of furnace fittings and registers. Must be experienced and able to show a successful road record. Splendid opportunity to man who can fill proposition. Address B-88, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 6-2t.

Salesman Wanted—For South Dakota territory by an old established stove and furnace manufacturer. Splendid commission proposition to the man who has confidence in his ability and can produce results. Address B-87, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 6-2t.

Wanted—Good all-around tinner for furnace and sheet metal work. Must be steady and have good habits. State wages and experience. Steady work with advancement for right party. Address Buehrens Tin Shop, Dorchester, Wisconsin. 6-3t.

Wanted—Tinner, who can also do plumbing and general repair jobs on farms. One who is willing to work on percentage basis. No capital, tools or truck required. Address Grant Park Hdwe. Co., Grant Park, Illinois. 5-3t

Wanted—Two good sheet metal workers. Steady position, no labor trouble. Scale one dollar per hour. Write experience, etc. Address B-93, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 7-3t

Wanted at Once—All around man to do sheet metal and some plumbing such as comes in a country shop. Wages \$30.00 per week year around. Address O. L. Doward, Box 115, Mt. Morris, Illinois. 9-3t

Wanted at Once—Sheet metal worker and furnace installer. Must be a good man. Write or call E. G. Hurdle, Hardware, Rock Falls, Illinois. 9-3t

Wanted—At once a first-class sheet metal worker and furnace man. Address Andrew Lind, Dundee, Illinois. 7-3t

TINNERS' TOOLS

Wanted—To buy used 36-inch roll for 14-inch gauge iron and lighter. Address Hanbury Sheet Metal Company, 512 West 8th street, Des Moines, Iowa. 7-3t

For Sale—One sectional sheet metal rack 10 ft. long. Holds 44 bundles and only 40 inches high. Cost \$50.00. Best offer takes it. Also new steel furnace rope and pulleys. R. W. Tyler, 436 North Second Avenue, Canton, Illinois. 8-3t

For Sale—One No. S-19-5 Ideal sectional boiler, made by American Radiator Co. Has been in use one winter. First class condition. Will sell at a bargain. Address Brouillet Sheet Metal Works, 271 Iowa street, Dubuque, Iowa. 7-3t

For Sale—One 20-inch grooving machine; one large burring or circle shears; one turning down machine. Address G. O. Crouch and Sons, 31-33 Market Square, Chattanooga, Tennessee. 7-3t

Wanted to Buy—30-inch stove pipe rolls, 30-inch square shears and 8-foot brake. State best prices for cash. Address F. C. Ramer, Cedar Falls, Iowa. 9-3t

Wanted—One new or used Capitol Auxiliary 500 feet hot water coil. Quote your lowest cash price. Write Edw. A. Knabe, 1209 First Avenue, Rock Falls, Illinois. 7-3t

Wanted—Second-hand tinner's tools and machines. Write and state lowest prices for cash. Address C. S. Johnson, Dell Rapids, South Dakota. 4-3t

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SITUATION WANTED

Either sales or purchasing. Am experienced in sheet steel, jobbing and metal ceilings, understand blue-prints and estimating. Acquainted with the trade in Chicago and surrounding territory. Address W-33, care AMERICAN ARTISAN, 620 South Michigan Avenue, Chicago, Illinois. 6-3t.

FOR SALE

The best proposition on the market. Old established heating and sheet metal business whose owner is retiring. Have an A-1 reputation for good goods and high grade work. Has run as high as \$52,000.00 a year. Two-thirds of our work is not figured. Invoice approximately \$5,000.00. If you are OK you can swing this for \$3,000.00 cash. Rapidly growing city of 25,000 in western Illinois. Have spent \$15,000.00 in 20 years advertising. Good money maker for a live wire. Address W34, American Artisan, 620 South Michigan Avenue, Chicago, Ill.

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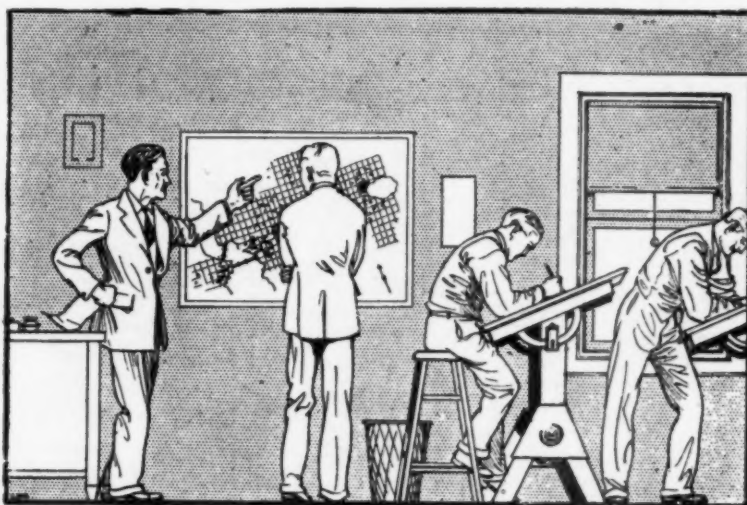


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NAILS are saving time, labor and money
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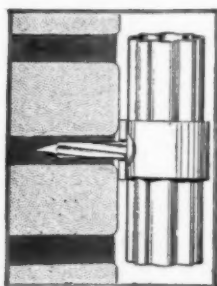
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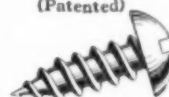


Showing a leader pipe fastened to a brick wall with PARKER-KALON Hardened MASONRY NAILS. Note how the Nail becomes embedded in the mortar.



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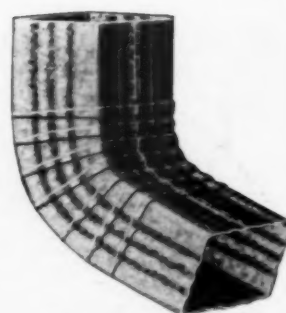
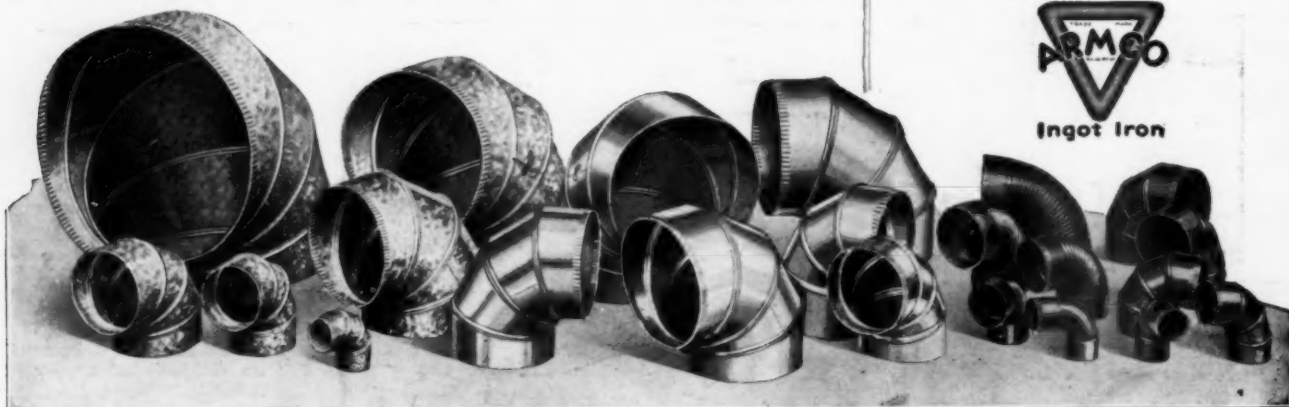
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Plain Round—Corrugated Round—Corrugated Square—Galvanized after formation



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